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ILLUSTRATED CATALOGUE AND PRICE LIST

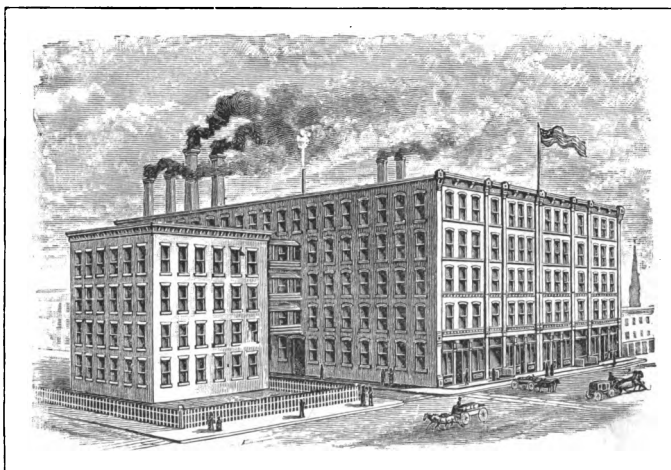
.... OF

Cable Addresses:

LUNKEN,
Cincinnati.

LUNKEN,
New York.

LUNKEN,
London.



A. B. C. CODE,
Fourth
Edition.

THE LUNKENHEIMER COMPANY,

MANUFACTURERS OF

SUPERIOR BRASS AND IRON VALVES,
LUBRICATORS AND STEAM SPECIALTIES.

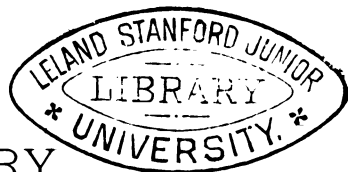
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THE LUNKEN VALVE CO., LIMITED,
No. 35 GREAT DOVER ST.,
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INTRODUCTORY.

IN presenting this Catalogue to our patrons and the trade generally, we are pleased to state that the "LUNKENHEIMER SPECIALTIES" continue to gain in popularity, and the high standard for superiority they have justly held has not been impaired.

Our untiring efforts are constantly directed to keeping the quality and efficiency of our productions at the HIGHEST standard of excellence. We use only the best materials, maintain a rigid system of inspection in the production of every article, and subject them to tests before shipment.

All our steam goods are made according to the United States Government standard of steam composition, while many other manufacturers, to reduce the cost of production, use an inferior mixture—thus their difference in quality can only be discovered by practical use—and it is this superior quality of our steam composition that accounts for the marked and well-known durability of the Lunkenheimer productions.

Our rigid system and care in producing only first-class, high-grade goods during the last thirty years, has brought our Specialties to such a state of perfection, that we can justly and modestly claim, that they are to-day better than ever, and the best of their kind. They have become the "criterion" of their class throughout the civilized world, and the market for them has so greatly extended that, to more promptly serve our patrons, we have opened up New York and London branches. Both stores are in charge of competent managers, and we carry in them a complete stock of such goods as are called for in their respective markets.

In conclusion we wish to thank our friends and patrons for the hearty endorsement with which they have heretofore accepted our productions, and, we trust, with improved manufacturing and distributing facilities, to be favored with an increased share of their trade.

Faithfully yours,

THE LUNKENHEIMER COMPANY.

Cincinnati, Ohio, U. S. A., January 1, 1895.

OFFICERS:

EDM. H. LUNKEN, PRESIDENT.
C. F. LUNKENHEIMER, VICE-PRESIDENT & TREASURER.
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The "Lunken" Gate Valve

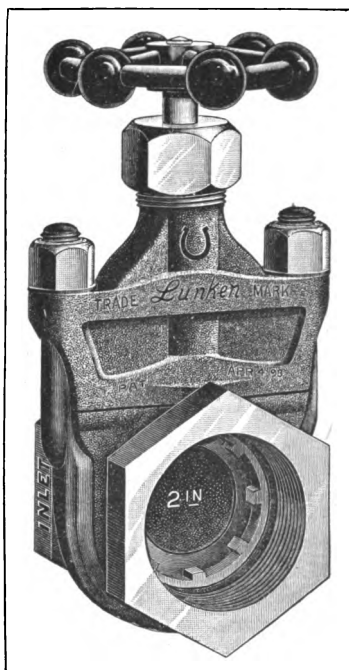
WITH BALANCED DISC AND RENEWABLE SEAT.

IN few industries has there been less genuine invention displayed than in the valve making industry, for valves to-day are precisely the same as fifty years ago—possessing the same defects.

Why should a valve shell, when once in place, not last as long as the pipes connected thereto?

Why should the parts that wear (seat and disc) not be easily renewed?

Why should not Gate Valves used for



steam purposes (especially above 2½ inch size) have balanced disc (Automatic By-pass) to insure easy operating and overcome wear and friction on seat, disc and stem?

Realizing these facts, we have placed upon the market the "**Lunken**" Gate Valve, whose merits and price must eventually make it the "Universal Standard." Many users claim it to be the only practical and reliable **straightway steam** valve thus far constructed.

NOTICE.

We have lately made the following improvements, making these valves absolutely perfect, viz: given more taper to the wedges,—on Iron Valves adopted solid brass stems and a brass swivel connection between the disc and stem,—and instead of lead or asbestos for joint (between body and hub or bonnet) are using an oblong copper washer imbedded **tightly** in a groove cut in the top face of the body. All "**Lunken**" Valves are fully warranted.

DESCRIPTION.

REFERRING to cuts on pages 7, 8 and 9, the bonnet E is held to the shell by a steel clip, the joint being made by a seamless oval copper wire washer held tightly in a groove in the shell; thus the valve can be easily taken apart without renewing the packing washer. The bonnet is flat and narrow, and has sectional or part-nut threads in its opposite interior sides. The threaded portion (J) of the stem by engaging with these part threads, causes the valve to be opened or closed. The disc has a straight flat bearing against the renewable seat (C) and is forced tightly against same by the self-adjusting half-ring wedge (D). The wedging on the disc is applied on wedging surfaces diametrically opposite each other; thus the wedging-pressure is properly equalized on the entire disc and insures a tight joint. The pressure of the steam or liquid is on the back or wedge side of disc, and as the valve closes and seats itself easily, it is not necessary to apply as much force in wedging it to its seat as is customary with globe valves.

Valves above 2½ inch size are provided with patent "By-pass," which balances the disc before opening, thus reducing the friction and wear on seat and disc to a minimum, and causing the valve to open easily. **This feature makes the "Lunken" Valve the most practical straight-way steam and high-pressure valve.** The "By-pass" (shown in Plate C), is an auxiliary valve formed in the top of the valve disc and operated by the stem (O) of valve, automatically, while opening or closing the main valve. Channel (N) passing through the disc, connects the inlet or pressure side of the valve with the outlet side, the end of the stem (Y) controls this channel, (there being sufficient play in the disc coupling to allow the complete opening of the channel) caused by the first one-sixth turn of the wheel. The renewable seat is an exteriorly threaded flanged ring screwing up to a shoulder, the opposite face of which flange forms the seat for the disc to close against. The inner periphery of the renewable seat has lugs (K) for the engagement of the spanner end of wrench (Plate D), by which means the seat is tightened or loosened through the disc opening of the body, without disturbing the pipe connections. The ring end (T) of the wrench is used to hold and guide the renewable seat into place, so as to properly start its threads. In large Iron Valves (above 3 inch size) the renewable seat screws into a second brass ring, permanently fastened in the iron shell.

To renew the seat in a valve proceed as follows: Take off the bonnet (E), loosen the seat with the spanner end (M) of wrench, as shown in Plate D. Then unscrew and take out seat. Then place the new seat on the ring

end (T) of the wrench and insert into valve, (see plates E and F), holding the wrench in one hand, (to hold and guide the new seat into place) while with the use of a pointed tool in the other hand engage the milled edge of seat, and turn and start it into its threads. When properly started and screwed down, the spanner end of wrench is applied to tighten the seat firmly. Thus in a few minutes and with perfect ease, any person can practically make a worn-out "Lunken" Gate Valve as good as new, the cost of the renewable seat or a new disc being trifling.

Should the seat become so tightly cemented in the shell that it cannot be unscrewed with the wrench, then loosen or split the seat with a pointed chisel, when it can be easily unscrewed or removed.

Another important feature is that the stem, when valve is full open, seats itself (V against U) thus relieving all pressure on stuffing-box, permitting repacking of same under pressure. The clip surrounding the shell adds greatly to the strength of the entire valve, and permits of its being taken apart easily with a small wrench. The shell is so short and rigid, and the wedging surfaces are so small, that expansion and contraction have no effect upon the valve, and the disc will never wedge fast and become inoperative, as with many styles of double seated Gate Valves. This construction also overcomes the objection in double disc gate valves, where liquids remain in the shell between the discs, and often freeze or injure the valve. **It is impossible for anything to lodge on the seat of this valve**, as the disc and seat have a straight face, and (the pressure on the back of disc keeps it tightly pressed against its seat) thus it actually cuts away (like the action of the blades of a pair of shears) anything in its path. **This feature combined with the renewable seat, commends the "Lunken" valve for "blow-off" purposes.**

Valves above 2 ½-inch size, intended for "blow-off" purposes, we recommend to be used without the By-pass.

The "Lunken" Gate Valve can be used in all places where Globe Valves, Gate Valves or Stop-Cocks are used, and cannot be excelled as a Throttle Valve for Stationary Steam Engines. All parts are interchangeable, workmanship and material first-class, and **every valve is warranted.**

Directions for renewing the seat, and operating valves provided with "By-pass," furnished with each valve.

TO OPERATE "BY-PASS."—The valve being closed, give the wheel about one-sixth turn, then wait a moment to allow the steam to pass through "By-pass," and balance the disc, then continue to turn the wheel and open the valve.

Interior Construction and Description.

NOTICE.—All Valves LARGER than 2½ size are provided with Patent By-pass.

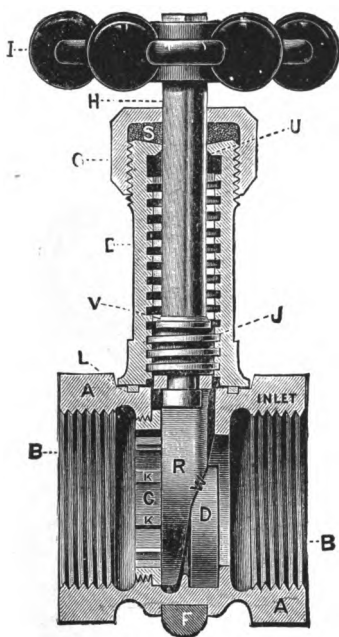


PLATE A. Sectional of Valve without By-pass.

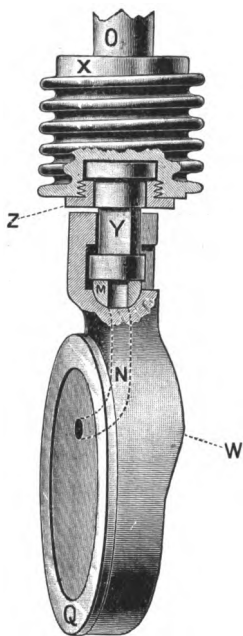


PLATE C. Stem, Disc and By-pass, as used on Iron Body Valves. (By-pass is closed.)

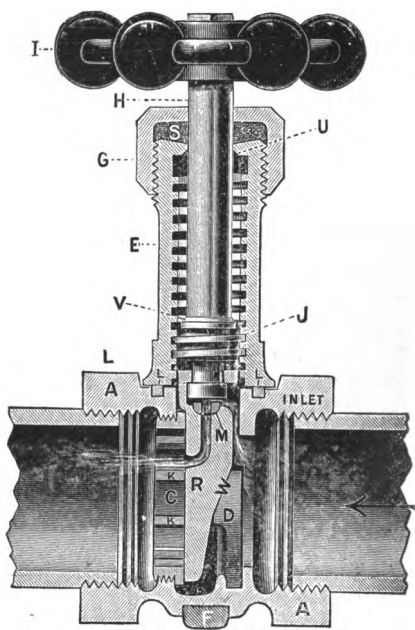


PLATE B. Sectional of Valve with By-pass open, and steam blowing through.

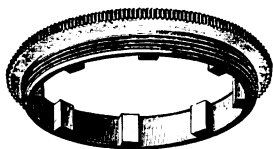
DESCRIPTION PLATE A.

- C—Renewable Seat.
- D—Self-Adjusting Horseshoe Wedge.
- F—Japanned Steel Band.
- KK—Ribs on Renewable Seat.
- L—Annealed Copper Wire Washer.
- R—Disc.
- S—Asbestos Packing.
- V—Seat, closing against U when Valve is open.

DESCRIPTION PLATE C.

- M—Brass By-pass Valve.
- N—By-pass channel through Disc.
- O—Brass Stem.
- Y—Brass Swivel Coupling between Stem and Disc.
- Z—Lock-nut with left hand thread, holding Y to X.
- W—Wedge surface on back of Disc.
- Q—Brass Seat bearing of Disc.

Cuts Showing Method of Renewing the Seat.



Renewable Seat.



PLATE E. Renewable Seat placed on Ring End (T) of Wrench, ready to insert into shell.

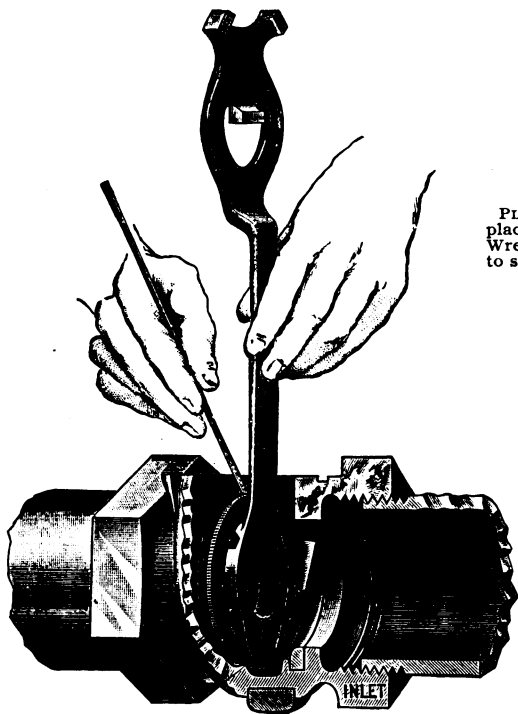


PLATE F. Guiding and Screwing a new Seat into Shell.

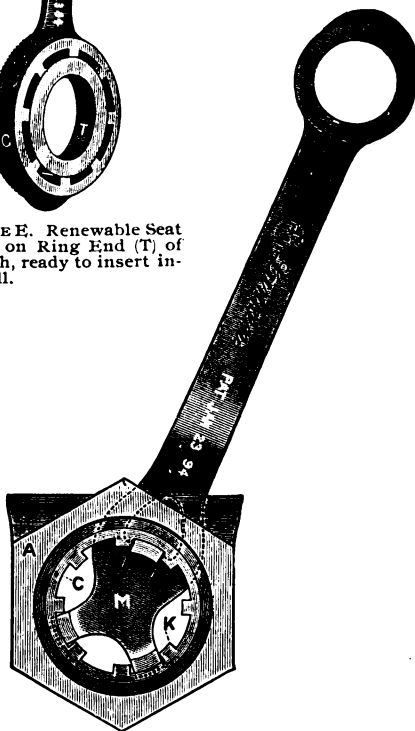


PLATE D. Shell of Valve, showing application of Spanner End (M) of Wrench to seat, to loosen or tighten same.

The "LUNKEN" Gate Valve.

WITH BALANCED DISC AND RENEWABLE SEAT.

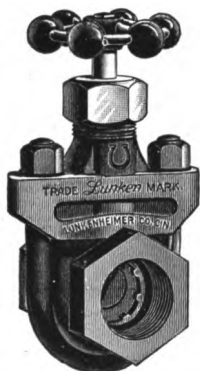


Fig. 400. Iron Body, Screwed.
Made with Screwed Ends only.
 $\frac{1}{4}$ inch to 3 inch.
For 150 lbs. Working Pressure.



Fig. 401. Brass Body, Screwed.
Made with Screwed and Flanged Ends.
 $\frac{1}{4}$ inch to 6 inch.
For 200 lbs. Working Pressure.

"A valve whose seat and disc are renewable without disconnecting from pipes."
"A valve with balanced disc ; frictionless and operating easily under high pressure."
"A valve, although with straight way, is more compact than a Globe Valve."
"A valve provided with a rising spindle, thus indicating whether it is open or shut."
"A valve such as all users have thought a necessity."

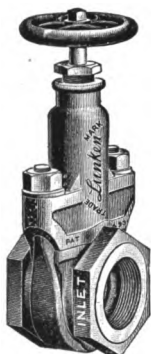


Fig. 402. Iron Body, Screwed.
2 inch to 12 inch.
Heavy.
For 200 lbs. Working Pressure.

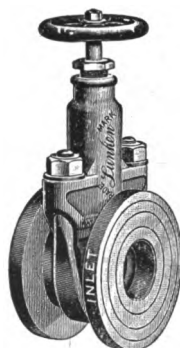


Fig. 403. Iron Body, Flanged.
2 inch to 12 inch.
Heavy.
For 200 lbs. Working Pressure.

All "Lunken" Valves bear our Trade Marks: "LUNKEN" and "U" Horseshoe.

Price List—Dimensions—Weights.

IRON BODY.—Fig. 400. Warranted for 150 lbs. Working Pressure. Screw Ends.

SIZE.....inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
IRON BODY, Brass Mt'd, Screw Ends.....each	1 20	1 25	1 50	1 90	2 50	3 50	5 00	7 50	12 00	15 00
Extra Seats, Discs and Wrenches.....each	08	10	12	16	22	30	40	50	75	1 00
Distance End to End, Screw Ends.....inches	$1\frac{1}{2}$	$1\frac{3}{8}$	2	$2\frac{1}{4}$	$2\frac{3}{8}$	$2\frac{1}{2}$	$2\frac{3}{4}$	$3\frac{1}{8}$	$3\frac{3}{8}$	$4\frac{1}{4}$

NOTICE.—In ordering these valves always mention "Iron."

These valves have brass wearing parts (*i. e.*) stem, disc, seat, wedge and stuffing-box, are intended to take the place of ordinary globe and other style gate valves are warranted to stand 150 lbs. working pressure, and made only with screw ends.

Iron Body, Brass Mounted.

HEAVY.—Fig. 402 and 403. Warranted for 200 lbs. Working Pressure.
Screw and Flange Ends.

SIZE.....inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
IRON, Brass Mounted, Screw Ends.....each	9 00	12 00	15 00	18 00	22 00	26 00	32 00
IRON, Brass Mounted, Flange Ends.....each	10 50	14 00	17 50	21 00	25 00	30 00	36 00
Extra Seats, Discs and Wrenches.....each	50	75	1 00	1 25	1 50	2 00	2 50
Distance End to End, Screw Ends.....inches	$3\frac{3}{8}$	$4\frac{3}{8}$	$4\frac{1}{2}$	$5\frac{3}{8}$	$5\frac{1}{2}$	6	$6\frac{3}{8}$
Distance Face to Face, Flange Ends.....inches	4	$4\frac{7}{8}$	5	6	$6\frac{3}{8}$	$6\frac{1}{2}$	7
Diameter of Flanges.....inches	6	7	$7\frac{1}{2}$	$8\frac{1}{2}$	9	$9\frac{1}{2}$	10
Weight Complete, Screw Ends.....lbs.	12	23	32	44	59	74	92
Weight Complete, Flange Ends.....lbs.	18	31	42	56	73	89	111

SIZE.....inches	6	7	8	9	10	12
IRON, Brass Mounted, Screw Ends.....each	40 00	56 00	70 00	82 00	100 00	140 00
IRON, Brass Mounted, Flange Ends.....each	44 00	61 00	75 00	87 00	106 00	146 00
Extra Seats, Discs and Wrenches.....each	3 00	3 50	4 20	5 00	6 00	8 00
Distance End to End, Screw Ends.....inches	7	$7\frac{1}{4}$	$7\frac{3}{4}$	$7\frac{1}{2}$	$8\frac{1}{4}$	9
Distance Face to Face, Flange Ends.....inches	$8\frac{1}{4}$	$8\frac{3}{4}$	9	$8\frac{3}{4}$	$9\frac{1}{4}$	$10\frac{1}{4}$
Diameter of Flanges.....inches	11	$12\frac{1}{2}$	$13\frac{1}{2}$	15	16	19
Weight Complete, Screw Ends.....lbs.	124	157	200	225	265	395
Weight Complete, Flange Ends.....lbs.	150	187	233	269	318	454

NOTICE.—When ordering these valves in 2 to 3 inch sizes mention "Heavy"—to distinguish from same sizes of Fig. 400.

Iron Body Brass Mounted Valves have solid brass stems, but Figures 402 and 403 can also be furnished with steel stems, without extra charge.

All orders will be filled with brass stem valves unless otherwise ordered.

Special prices will be furnished where specifications call for flanges other than above.

All "Lunken" Valves furnished with Standard English Threads or Flanges without extra cost.

Price List—Dimensions—Weights.—Continued.

Brass.

Fig. 401.—Warranted for 200 lbs. Working Pressure. Screw and Flange Ends.

SIZE.....inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4	5	6
BRASS, Screw Ends .....each	1 20	1 25	1 50	1 90	2 50	3 50	5 00	7 50	14 00	20 00	30 00	110 00	150 00
BRASS, Flange Ends.....each			3 00	3 80	5 50	7 00	9 50	15 00	24 00	32 00	90 00	130 00	175 00
Ex. Seats, Discs & Wrenches.....each	08	10	12	16	22	30	40	50	75	1 00			
Dist. End to End, Screw E'ds.inch	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{7}{8}$	$2\frac{1}{8}$	$2\frac{1}{4}$	$2\frac{9}{16}$	$2\frac{11}{16}$	3	$3\frac{3}{4}$	4	$5\frac{1}{4}$	6	$6\frac{1}{2}$
Weight Complete.....lbs.	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{8}$	$2\frac{1}{4}$	$3\frac{1}{8}$	$4\frac{1}{4}$	$6\frac{3}{4}$	11	17	55	85	115
Diameter of Flanges .....inches			3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	$7\frac{1}{2}$	9	10	11
Dist. Face to Face, Fl'ge E'ds.inch			$2\frac{7}{8}$	$2\frac{1}{2}$	$2\frac{5}{8}$	3	$3\frac{3}{8}$	$3\frac{1}{4}$	4	$4\frac{1}{8}$	$5\frac{1}{2}$	6	7
Weight Complete.....lbs.			$2\frac{1}{2}$	$3\frac{3}{8}$	5	$6\frac{3}{4}$	$9\frac{1}{2}$	$12\frac{1}{2}$	$21\frac{1}{2}$	29	65	100	135

NOTICE.—In ordering these valves always mention "Brass."

All Iron.

HEAVY.—Warranted for 200 lbs. Working Pressure. Screw and Flange Ends.

SIZE .....inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
ALL IRON, Screw Ends .....each	9 00	12 00	15 00	18 00	22 00	26 00	32 00
ALL IRON, Flange Ends.....each	10 50	14 00	17 50	21 00	25 00	30 00	36 00
Extra Seats, Discs and Wrenches .....each	50	75	1 00	1 25	1 50	2 00	2 50
Distance End to End, Screw Ends.....inches	$3\frac{3}{8}$	$4\frac{3}{8}$	$4\frac{3}{8}$	$5\frac{3}{8}$	$5\frac{3}{4}$	6	$6\frac{3}{4}$
Distance Face to Face, Flange Ends.....inches	4	$4\frac{7}{8}$	5	6	$6\frac{3}{8}$	$6\frac{3}{4}$	7
Diameter of Flanges.....inches	6	7	$7\frac{1}{2}$	$8\frac{1}{2}$	9	$9\frac{1}{4}$	10
Weight Complete, Screw Ends.....lbs.	12	23	32	44	59	74	92
Weight Complete, Flange Ends.....lbs.	18	31	42	56	73	89	111

SIZE.....inches	6	7	8	9	10	12
ALL IRON, Screw Ends.....each	40 00	56 00	70 00	82 00	100 00	140 00
ALL IRON, Flange Ends.....each	44 00	61 00	75 00	87 00	108 00	148 00
Extra Seats, Discs and Wrenches .....each	3 00	3 50	4 20	5 00	6 00	8 00
Distance End to End, Screw Ends.....inches	7	$7\frac{1}{4}$	$7\frac{3}{4}$	$7\frac{1}{2}$	$8\frac{1}{2}$	9
Distance Face to Face, Flange Ends.....inches	$8\frac{1}{8}$	$8\frac{3}{4}$	9	$8\frac{3}{4}$	$9\frac{3}{4}$	$10\frac{1}{4}$
Diameter of Flanges.....inches	11	$12\frac{1}{4}$	$13\frac{1}{4}$	15	16	19
Weight Complete, Screw Ends.....lbs.	124	157	200	225	265	335
Weight Complete, Flange Ends.....lbs.	150	187	233	269	318	454

THE "LUNKEN"

Hose, Indicator and Quick Opening Valves.

WITH RENEWABLE SEAT.

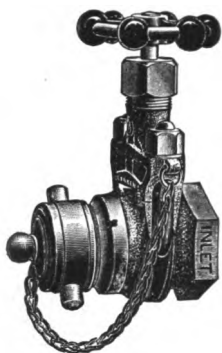


Fig. 404. Hose Valve.

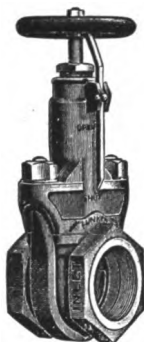
Fig. 405. Iron Body,
with Indicator.

Fig. 406. Quick Opening.

PRICE LIST.—HOSE VALVES.

Size.....Inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Without Cap and Chain.....each	1 90	2 50	3 50	5 00	7 50	14 00	20 00
Finished Cap and Chain, extra.....each	1 00	1 20	1 60	2 25	3 25	5 00	6 00

Hose Valves are furnished nickeled all over, with brass or wood wheel, if desired. Prices upon application.

Female Ends are standard Iron Pipe Threads; Male Ends are Hose Thread.

In ordering Hose Valves always send sample of Hose Thread desired.

Accepted by the Inspection Department of the Associated Factory Mutual Insurance Companies.

PRICE LIST.—Quick Opening Valves and Iron Body Valves with Indicator.

Size.....Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3			
BRASS, Quick Opening, Screw Ends.....each				1 90	2 50	3 50	5 00	7 50	14 00	20 00			
BRASS, Quick Opening, Flange Ends.....each				3 80	5 50	7 00	9 50	15 00	24 00	32 00			
Size.....Inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8	9	10	12
IRON, Quick Opening, Screw Ends.....each	9 00	12 00	15 00	18 00	22 00	26 00	32 00	40 00	56 00	70 00	82 00	100 00	140 00
(Brass Mounted.)													
IRON, Quick Opening, Flange Ends.....each	10 50	14 00	17 50	21 00	25 00	30 00	36 00	44 00	61 00	75 00	87 00	106 00	146 00
(Brass Mounted.)													
IRON, with Indicator, Screw Ends.....each	9 00	12 00	15 00	18 00	22 00	26 00	32 00	40 00	56 00	70 00	82 00	100 00	140 00
(Brass Mounted.)													
IRON, with Indicator, Flange Ends.....each	10 50	14 00	17 50	21 00	25 00	30 00	36 00	44 00	61 00	75 00	87 00	106 00	146 00
(Brass Mounted.)													

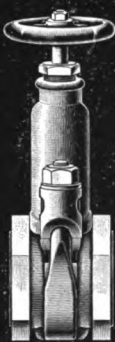
For Weights and Dimensions, and Prices on Renewable Seats, Discs and Wrenches see page 10.

NOTICE.—Our Iron Body Valves with Indicator are constructed to conform to the Underwriters' Regulations.

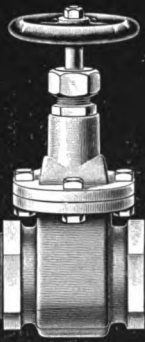
The "Lunken" Gate Valve.

COMPARISON CUTS.

A PHOTOGRAPHIC REDUCTION OF A SIX INCH SCREW END OLD STYLE AND "LUNKEN" RENEWABLE SEAT GATE VALVE.



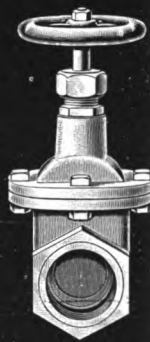
LUNKEN.



OLD STYLE.



LUNKEN.



OLD STYLE.

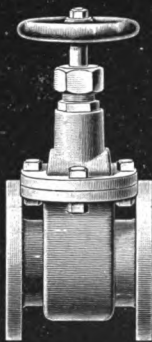
ON ACCOUNT OF THE PRACTICAL CONSTRUCTION OF THE "LUNKEN" GATES, COMPARISON SHOWS, THAT THEY ARE **SIMPLER, STRONGER, MORE COMPACT,** AND IN PROPORTION MUCH **HEAVIER** THAN THE MOST EXPENSIVE, AND **LOWER IN PRICE** THAN THE CHEAPER GATE VALVES ON THE MARKET.

THE VALVE WONDER OF THE AGE.

A PHOTOGRAPHIC REDUCTION OF A SIX INCH FLANGE END OLD STYLE AND "LUNKEN" RENEWABLE SEAT GATE VALVE.



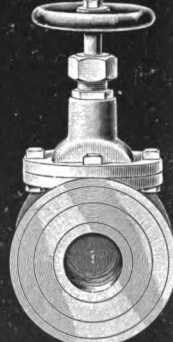
LUNKEN.



OLD STYLE.



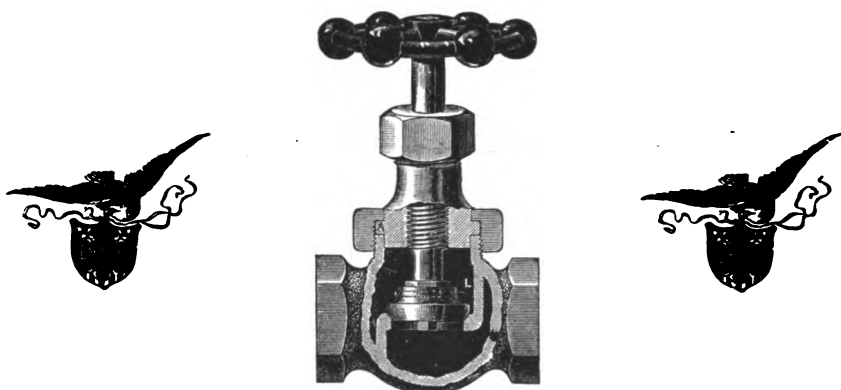
LUNKEN.



OLD STYLE.

ON ACCOUNT OF THE PRACTICAL CONSTRUCTION OF THE "LUNKEN" GATES, COMPARISON SHOWS, THAT THEY ARE **SIMPLER, STRONGER, MORE COMPACT,** AND IN PROPORTION MUCH **HEAVIER** THAN THE MOST EXPENSIVE, AND **LOWER IN PRICE** THAN THE CHEAPER GATE VALVES ON THE MARKET.

LUNKENHEIMER'S
Patent Regrinding Globe and Angle Valves.



Sectional.

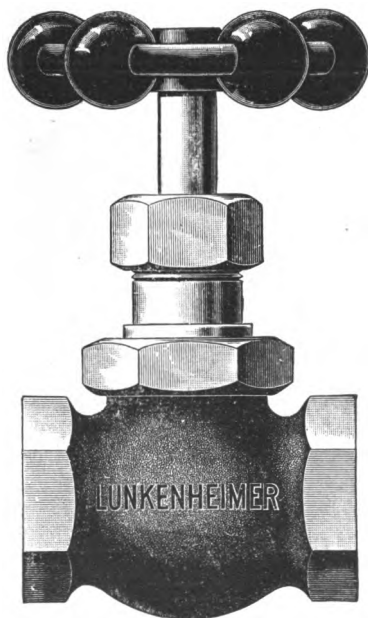


Fig. 407. Globe Valve.

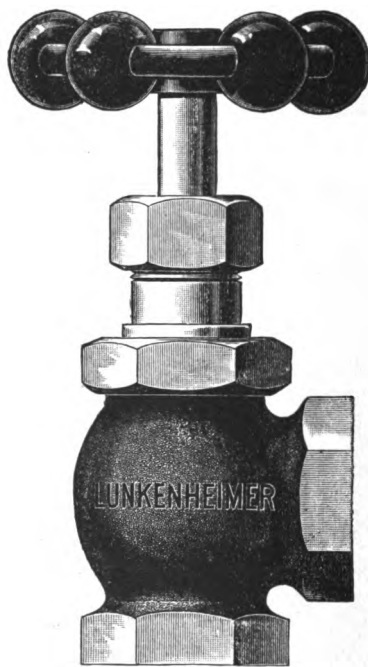


Fig. 408. Angle Valve.

NOTICE.—All genuine valves have "LUNKENHEIMER" cast in the shell, a guarantee for quality, efficiency and durability.

DESCRIPTION.

THE LUNKENHEIMER GLOBE AND ANGLE VALVES are heavy "regrinding" valves of superior quality and workmanship, made from our own peculiar steam composition, and are acknowledged by the trade to be the simplest and best steam valves in the market. They cost less and outlast composition disc valves, and are fully warranted in every particular. When worn in the seat they can be made as good as new by regrinding. These valves (on account of having an *outside* thread and union connection for holding the hub to the valve-shell) are always easily taken apart, as the hub will not cement into the shell as is the case with all other makes. As a proof of their superiority they are extensively used on Government Work, Steamships, Locomotives, in Rolling Mills, Refineries, and in the United States Navy on Cruisers, etc. The stuffing-boxes are packed and all valves are thoroughly tested before leaving the factory. These valves are also furnished with round slotted hub nuts for spanner. Warranted to stand a working pressure of 175 lbs. per square inch.

TO REGRIND, unscrew the nut and place a little powdered sand and soap on disc. Insert a wire through hole in disc to hold it to stem, and regrind, leaving the nut unscrewed, so that the hub rotates and guides the stem while regrinding.

ALL genuine valves have "Lunkenheimer" cast in the valve-shell and a direction tag attached.

PRICE LIST.

SIZE.....inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Globe Valves.....each	70	70	85	1 15	1 45	2 00	2 80	3 90	6 20	12 00	16 50
Angle Valves.....each	70	70	85	1 15	1 45	2 00	2 80	3 90	6 20	12 00	16 50
Fin. all over, with Brass Wh'l.....each	1 75	1 90	2 15	2 50	3 10	3 65	5 25	7 25	10 75	22 00	33 50
Cross Valves.....each		1 00	1 00	1 50	2 00	2 70	3 50	5 10	8 00	16 00	24 00

LUNKENHEIMER'S
Patent Extra Heavy Regrinding Valves,
TO STAND 350 POUNDS WORKING PRESSURE.



Fig. 409. Globe Valve.
Screwed.

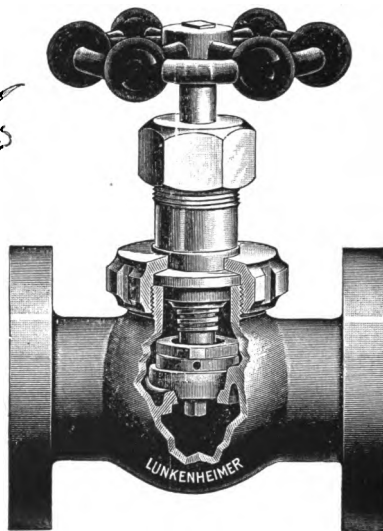


Fig. 410. Globe Valve.
Flanged.

WE desire to call the attention of Marine-Engine and Ship-builders to these improved steam valves, specially constructed for marine purposes. They are elegantly designed with an aim to great strength and durability, and permit "regrinding" in the bearing in case of wear on the seat or disc without disconnecting valves from pipes. The swivel or union style connection of the bonnet to the body of the valve, makes the entire valve much stronger than the usual patterns (with inside thread on the body), as the ring screwing over the neck of the body acts like a tie or binder. This connection also prevents "cementing" of bonnet to body, thus the valve can always be easily taken apart. To regrind the valve when worn and leaky, proceed as follows: Unscrew the bonnet-ring and take the valve apart; place a little powdered sand and soap on the disc,—insert a nail or wire through the hole in the disc to prevent same from revolving on the stem, then regrind, leaving the bonnet-ring unscrewed, so that the bonnet rotates and guides the stem while regrinding. When properly reground put the valve together and it will again be steam tight. A direction tag is attached to each valve explaining the regrinding feature.

For Price List and Dimensions, see Page 18.

LUNKENHEIMER'S
Patent Extra Heavy Regrinding Valves,
TO STAND 350 POUNDS WORKING PRESSURE.

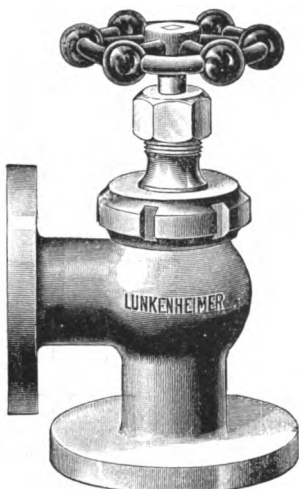


Fig. 411. Angle Valve.
Flanged.

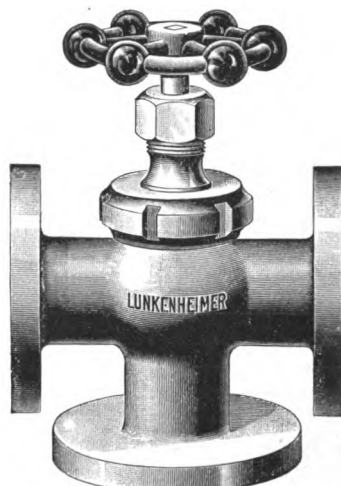


Fig. 412. Cross Valve.
Flanged

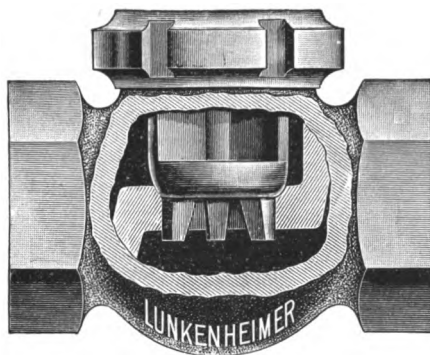


Fig. 413. Check Valve.
Screwed.

The metal used in these valves is the Government Standard Steam Composition. All valves are thoroughly inspected and tested, and the stuffing-boxes packed with asbestos before leaving the factory and fully warranted. As a proof of their superiority they are extensively used on Steamships, Locomotives, in Rolling-mills, Refineries and on many United States Cruisers. If desired, valves are furnished with hexagon bonnet rings for wrench, instead of slotted for spanner.

All our valves have "LUNKENHEIMER" and "S" cast in the valve body.

Extra Heavy Valves will be sent with slotted bonnet rings unless otherwise ordered.

For Price List and Dimensions, see Page 18.

LUNKENHEIMER'S

Patent Extra Heavy Regrinding Valves,

TO STAND 350 POUNDS WORKING PRESSURE.

PRICE LIST.

Extra Heavy, Screw and Flange Ends, Globe, Angle, Cross and Check Valves.

SIZE .....inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Globe and Angle Valves, Screw Ends .....each	1 80	2 40	3 50	4 90	7 00	10 50	17 50	27 75	40 30	52 80
Cross Valves, Screw Ends.....each	2 50	3 50	4 90	7 00	9 50	13 75	22 20	35 00	51 40	66 60
Check Valves, Screw Ends.....each	1 60	2 15	3 10	4 40	6 25	9 50	16 00	25 00	36 00	46 50
Globe Valves, Flange Ends.....each	3 15	4 00	5 50	7 90	10 60	14 40	21 50	31 25	44 00	57 50
Diameter of Flanges .....inches	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	$7\frac{1}{2}$	$8\frac{1}{2}$	9
Length Face to Face.....inches	4	$4\frac{1}{2}$	$5\frac{1}{8}$	$5\frac{3}{4}$	$6\frac{1}{4}$	$7\frac{1}{2}$	$8\frac{1}{2}$	9	$10\frac{1}{4}$	$10\frac{3}{4}$
Angle Valves, Flange Ends .....each	3 15	4 00	5 50	7 90	10 60	14 40	21 50	31 25	44 00	57 50
Diameter of Flanges.....inches	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	$7\frac{1}{2}$	$8\frac{1}{2}$	9
Centre to Inlet.....inches	2	$2\frac{1}{4}$	$2\frac{9}{16}$	$2\frac{7}{8}$	$3\frac{1}{8}$	$3\frac{3}{4}$	$4\frac{1}{4}$	$4\frac{1}{2}$	$5\frac{1}{8}$	$5\frac{3}{8}$
Centre to Outlet .....inches	2	$2\frac{1}{4}$	$2\frac{9}{16}$	$2\frac{7}{8}$	$3\frac{1}{8}$	$3\frac{3}{4}$	$4\frac{1}{4}$	$4\frac{1}{2}$	$5\frac{1}{8}$	$5\frac{3}{8}$
Cross Valves, Flange Ends.....each	4 00	5 25	7 00	9 75	13 40	18 75	26 25	37 50	58 00	75 00
Diameter of Flanges .....inches	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	$7\frac{1}{2}$	$8\frac{1}{2}$	9
Face to Face across.....inches	4	$4\frac{1}{2}$	$5\frac{1}{8}$	$5\frac{3}{4}$	$6\frac{1}{4}$	$7\frac{1}{2}$	$8\frac{1}{2}$	9	$10\frac{1}{4}$	$10\frac{3}{4}$
Centre to Face of bottom end.....inches	2	$2\frac{1}{4}$	$2\frac{9}{16}$	$2\frac{7}{8}$	$3\frac{1}{8}$	$3\frac{3}{4}$	$4\frac{1}{4}$	$4\frac{1}{2}$	$5\frac{1}{8}$	$5\frac{3}{8}$
Check Valves, Flange Ends.....each	2 85	3 60	5 00	7 30	9 85	13 50	20 00	28 50	40 00	52 00

Dimensions of Flanges on Check Valves, same as Globe Valves.

Special prices furnished where specifications call for flanges other than the above.

Also furnished with English Standard Flanges or Threads without extra cost.

LUNKENHEIMER'S Improved Regrinding and Ball Check Valves.

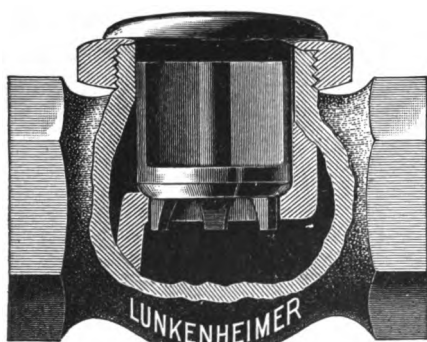


Fig. 414 Horizontal Check Valve.



Fig. 415. Angle Check Valve.



Fig. 417. Brass Ball.

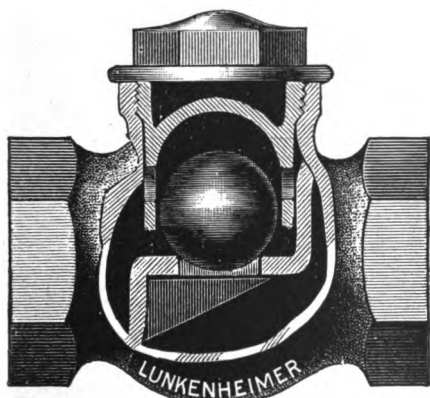


Fig. 416. Ball Check Valve.

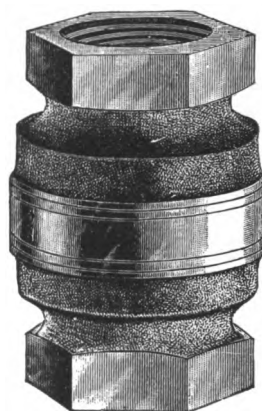


Fig. 418. Vertical Check Valve.

All genuine valves have "LUNKENHEIMER" cast in the valve-shell.

For Descriptions and Price Lists, see Page 20.

DESCRIPTION.

REALIZING the important service of Check Valves, we have aimed in designing these valves to overcome the defects found in most makes now on the market. The discs in our valves are guided both top and bottom, and so constructed that they will always seat themselves perfectly, and not leak, stick nor pound, and their action is quick and positive. A trial will convince users of their superiority. All our valves have "Lunkenheimer" cast in the valve-shell.

CHECK VALVES with enlarged seats have one size larger opening through same than regular, therefore requiring less lift, and giving more discharge.

PRICE LIST.

SIZE .....inches	½	¾	¾	½	¾	1	1¼	1½	2	2½	3
Check Valves, Horizontal, Angle, Vertical.....each	50	50	60	85	1 15	1 55	2 30	3 25	5 20	10 00	14 00
Check Valves, Horizontal ENLARGED Seats.....each				1 15	1 55	2 30	3 25	5 20	10 00		
Check Valves, With Drain Cocks .....each			1 05	1 30	1 60	2 00	2 75	3 70	5 65	10 50	14 50
Check Valves, Enlarged Seats, With Drain Cocks .....each				1 60	2 00	2 75	3 70	5 65	10 50		

OUR BALL CHECK VALVES are properly constructed and proportioned, and the balls perfectly true.

Having had long experience in making brass balls by special tools of our own invention, we warrant ours absolutely true.

All our Ball Check Valves have "Lunkenheimer" cast in the valve-shell.

PRICE LIST.

SIZE.....inches	¾	1	1¼	1½	2	2½	3		
Ball Check Valves.....each	1 10	1 60	2 30	3 10	4 00	6 20	9 40	18 00	25 00
Ball Check Valves, with Drain Cocks.....each	1 50	2 00	2 70	3 50	4 40	6 60	9 80	18 50	25 50

BRASS BALLS.

Sizes above 1½ inches are cast hollow.

SIZE.....inches	½	¾	1	1¼	1½	2	2½	2¾	3	3½	3¾	4	5	6
Price .....each	60	65	75	1 00	1 50	2 75	4 50	5 25	6 00	7 00	8 00	9 00	13 00	13 50

LUNKENHEIMER'S Regrinding Brass Globe and Angle Yoke Valves.

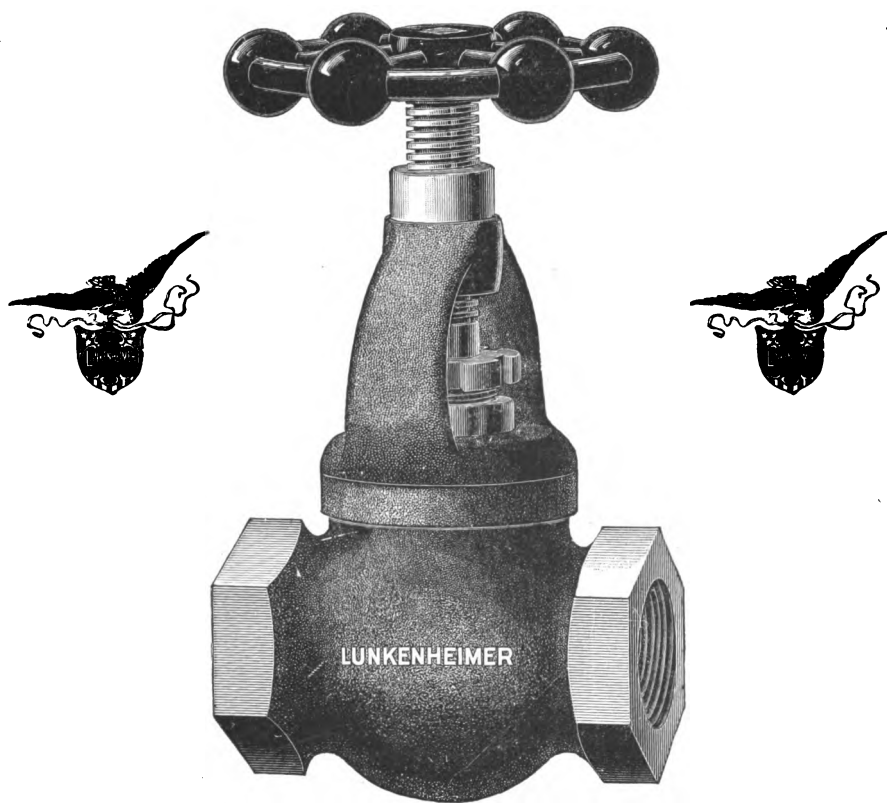


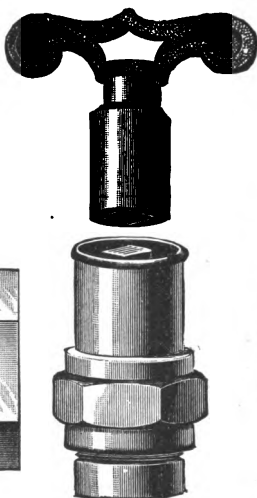
Fig. 419. Globe Yoke Valve.

THIS VALVE is especially adapted for Steamboat and other uses, where HEAVY steam pressure is used. As the screw on the stem does not come in contact with the steam, it is very durable. The yoke screws over the valve-shell same as on our Regrinding Valves, which makes the valve very strong and substantial.

PRICE LIST.

SIZE.....inches	1	1¼	1½	2	2½	3
Globe or Angle Valves, Brass Stems.....each	3 75	5 00	7 00	10 00	17 00	25 50

LUNKENHEIMER'S Regrinding Radiator Valve.



Lock Shield.

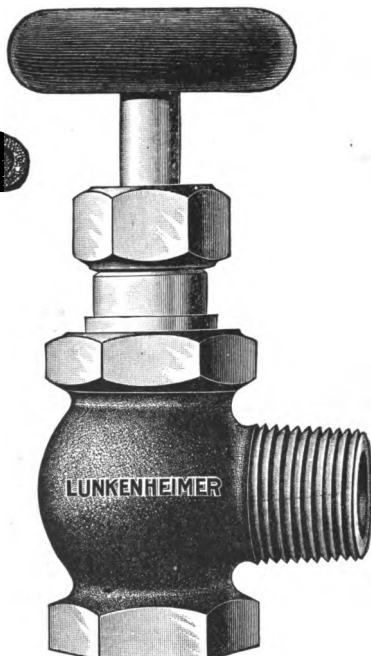


Fig. 420. Female Ends.

Fig. 421. Male and Female Ends.

LUNKENHEIMER'S REGRINDING RADIATOR VALVES are constructed on the same principle as our Regrinding Globe Valves. They make very neat and durable valves for radiators, can be reground when worn and cost less than composition disc valves. All our radiator valves are provided with patent "Unbreakable" Wood Handles.

PRICE LIST.

Wood Wheel, T Handle or Lock Shield.

SIZE.....inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Fig. 420, Rough Body.....each	1 35	1 60	2 25	3 25	4 50	7 00
Fig. 420, Rough Body, Nickel Plated Trimmings.....each	1 55	1 85	2 50	3 50	4 80	7 50
Fig. 420, Rough Body, Nickel Plated all over.....each	1 65	1 95	2 65	3 70	5 00	7 75
Fig. 420, Finished Body.....each	1 85	2 15	2 85	4 00	5 50	8 50
Fig. 420, Finished Body, Nickel Plated all over.....each	2 15	2 50	3 25	4 45	6 00	9 25
Fig. 421, Rough Body.....each	1 45	1 70	2 35	3 35	4 60	7 10
Fig. 421, Rough Body, Nickel Plated Trimmings.....each	1 65	1 95	2 60	3 60	4 90	7 60
Fig. 421, Rough Body, Nickel Plated all over.....each	1 75	2 05	2 75	3 80	5 10	7 85
Fig. 421, Finished Body.....each	1 95	2 25	2 95	4 10	5 60	8 60
Fig. 421, Finished Body, Nickel Plated all over.....each	2 25	2 60	3 35	4 55	6 10	9 85

Keys for Lock Shield Valves each net 12 cents.

When ordering Radiator Valves, always designate Threads, Style and Finish; also if wanted with Wood Wheel, T Handle or Lock Shield. Unless otherwise specified, valves will be sent with Wood Wheels.

LUNKENHEIMER'S Regrinding Radiator Valve.

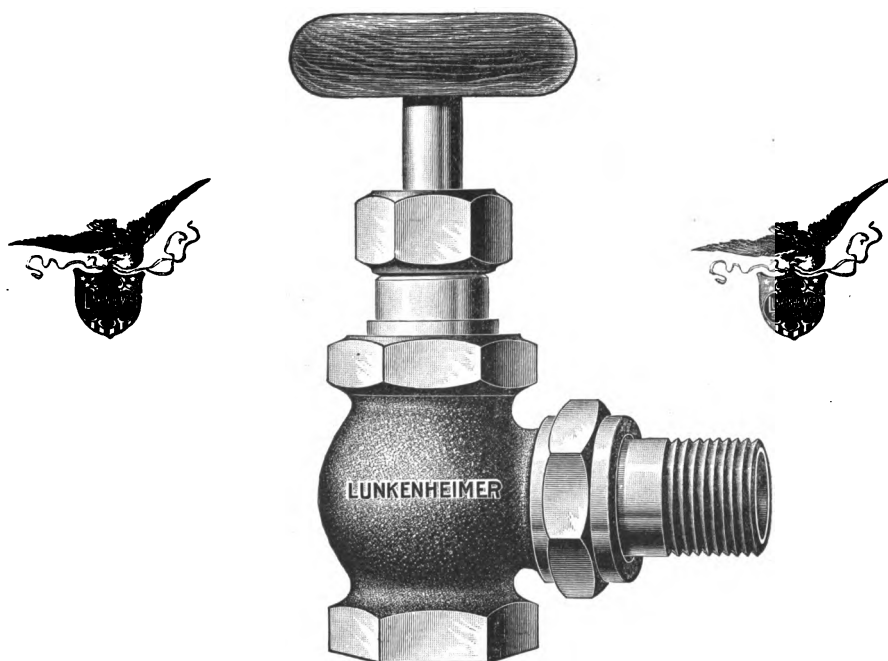


Fig. 422. With Union.

PRICE LIST.

Wood Wheel, T Handle or Lock Shield.

SIZE	inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Fig. 422 Rough Body, with Union.....	each	2 05	2 45	3 25	4 50	6 50	10 00
Fig. 422, Rough Body, Nickel Plated Trimmings with Union.....	each	2 30	2 75	3 50	4 85	6 90	10 50
Fig. 422, Rough Body, Nickel Plated all over, with Union.....	each	2 40	2 85	3 65	5 05	7 10	10 85
Fig. 422, Finished Body, Nickel Plated all over, with Union.....	each	2 90	3 40	4 30	5 80	8 10	12 35

Keys for Lock Shield Valves each net 12 cents.

When ordering Radiator Valves, always designate Threads, Style and Finish; also if wanted with Wood Wheel, T Handle or Lock Shield. Unless otherwise specified, valves will be sent with Wood Wheels.

LUNKENHEIMER'S Jenkins Disc Globe, Angle and Radiator Valves.

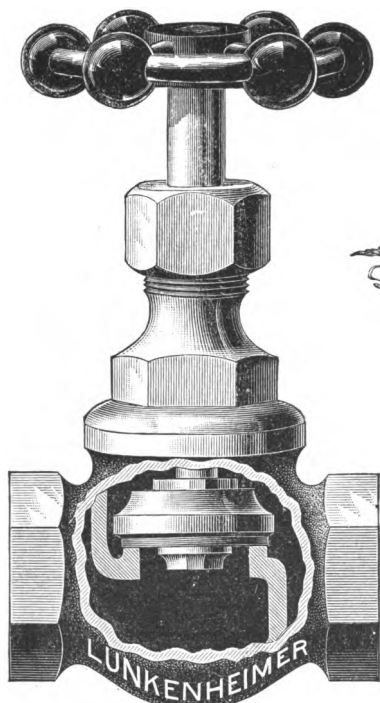
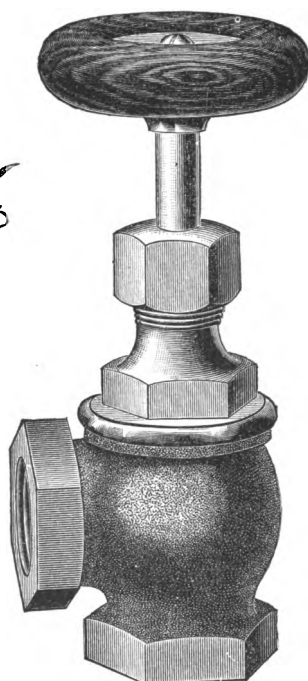


Fig. 423. Jenkins Disc Globe Valve.

Fig. 424. Jenkins Disc Radiator Valve.
Female Ends.

PRICE LIST.

SIZE.....inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Brass, Globe or Angle.....each	1 10	1 25	1 60	2 20	2 80	4 00	5 60	8 00	15 75	22 00
Iron Body, Globe or Angle.....each									11 00	16 00
Jenkins Discs, net.....each	04	05	06	07	08	12	16	24	32	40

SIZE.....inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Fig. 424, Rough Body, Finished Trimmings.....each	2 00	2 50	3 20	4 50	6 25	10 50
Fig. 424, Finished all over.....each	2 50	3 00	3 75	5 25	7 25	11 75
Fig. 424, Rough Body, Plated Trimmings.....each	2 25	2 70	3 50	4 75	6 50	10 75
Fig. 424, Rough Body, Plated all over.....each	2 50	2 85	3 65	4 90	6 75	11 00
Fig. 424, Finished and Plated all over.....each	2 85	3 10	4 00	5 40	7 75	12 25

Keys for Lock Shield Valves each net 12 cents.

These valves are provided with GENUINE Jenkins Discs, which when worn can be renewed.

Radiator Valves are furnished with either Wood Wheel, T Handle or Lock Shield at same price; when ordering please designate, also Style, Finish and Threads wanted (whether Right or Left Hand).

Unless otherwise specified, valves will be sent with Wood Wheels.

LUNKENHEIMER'S Jenkins Disc Radiator Valves.

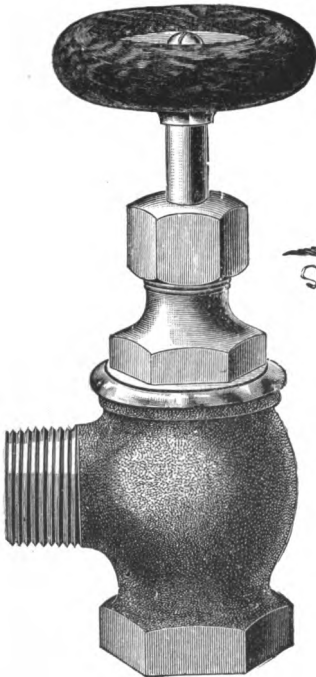


Fig. 425. Jenkins Disc Radiator Valve.
Male and Female Ends.

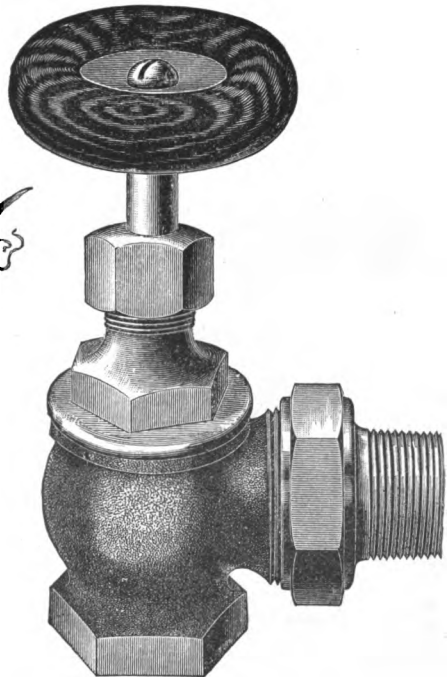


Fig. 426. Jenkins Disc Radiator Valve.
With Union.

PRICE LIST.

Wood Wheel, T Handle or Lock Shield.

SIZE.....inches	½	¾	1	1¼	1½	2
Fig. 425, Rough Body, Finished Trimmings.....each	2 10	2 60	3 30	4 60	6 35	10 60
Fig. 425, Finished all over.....each	2 60	3 10	3 85	5 35	7 35	11 85
Fig. 425, Rough Body, Plated Trimmings.....each	2 35	2 80	3 60	4 85	6 60	10 85
Fig. 425, Rough Body, Plated all over.....each	2 60	2 95	3 75	5 00	6 85	11 10
Fig. 425, Finished and Plated all over.....each	2 95	3 20	4 10	5 50	7 85	12 35
Fig. 426, Rough Body, Fin. Trim'gs, with Union.....each	2 75	3 50	4 30	5 85	7 75	12 60
Fig. 426, Finished all over, with Union.....each	3 20	4 00	4 80	6 40	8 75	13 85
Fig. 425, Rough Body, Pl'td Trim'gs, with Union.....each	3 00	3 75	4 65	6 25	8 00	12 85
Fig. 426, Rough Body, Plated all over, with Union.....each	3 20	3 80	4 75	6 40	8 10	13 10
Fig. 425, Finished and Plated all over, with Union.....each	3 25	4 25	5 25	7 00	9 25	14 35

Keys for Lock Shield Valves each net 12 cents.

These Valves are provided with GENUINE JENKINS DISCS, which when worn can be renewed.

For price of extra discs see page 24.

When ordering Radiator Valves, always designate Threads, Style and Finish; also if wanted with Wood Wheel, T Handle or Lock Shield. Unless otherwise specified, valves will be sent with Wood Wheels.

LUNKENHEIMER'S

"Old Style" Gate Valve.

ALL BRASS.

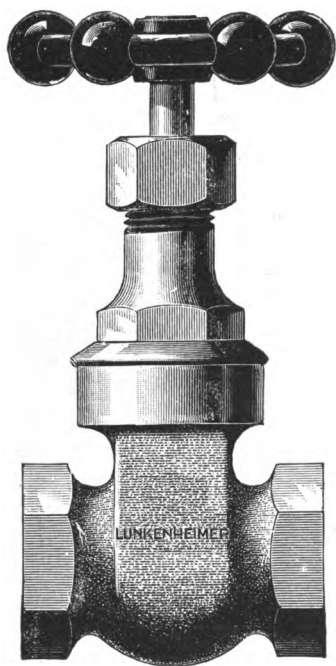
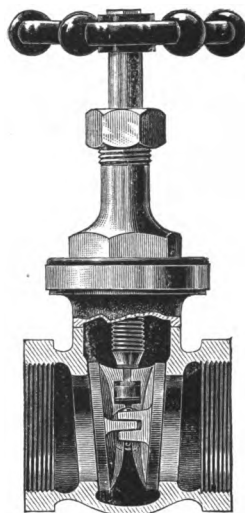


Fig. 427. Brass Gate Valve.



Sectional.

THESE VALVES are made from the best steam metal; the discs have a ball and socket bearing between them, thus insuring a perfect seating of discs. For certain purposes, where pressure does not exceed 75 pounds, we recommend our "Handy" Gate Valve, Page 28.

PRICE LIST.

SIZE.....inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Brass, Screw Ends .....each	1 00	1 00	1 20	1 75	2 50	3 50	5 00	7 50	14 00	19 50

LUNKENHEIMER'S

“Old Style” Gate Valves.

IRON BODY—DOUBLE WEDGE.

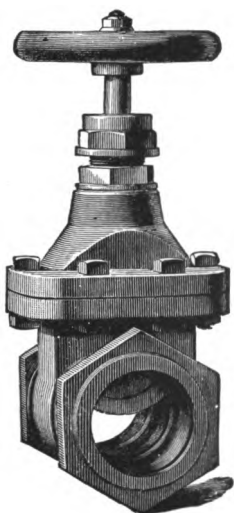


Fig. 428. Iron Body.
Screwed Ends.



Fig. 429. Quick Opening.

PRICE LIST.

SIZE.....inches	1	1¼	1½	2	2½	3	3½	4	4½	5	6
Iron Body, Screwed or Flanged Ends.....each				10 00	12 00	15 00	18 00	20 00	23 00	25 00	30 00
Quick Opening, Brass Screwed Ends.....each	4 00	5 00	7 00	10 00	19 00						
Quick Opening, Iron Body, Screwed or Flanged Ends.....each				12 00	16 00	20 00	22 00	25 00	28 00	30 00	35 00
Diameter of Flanges on Iron Body Valves.....inches				6	7	7½	8½	9	9½	10	11

LUNKENHEIMER'S "Handy" Gate Valve.

PATENTED.

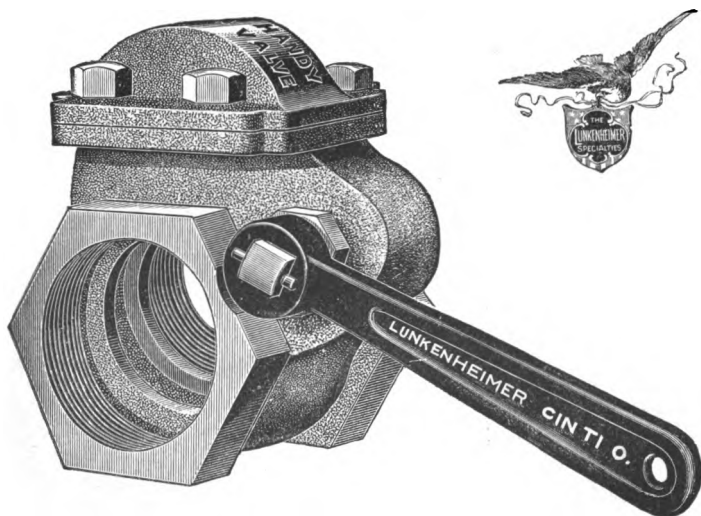
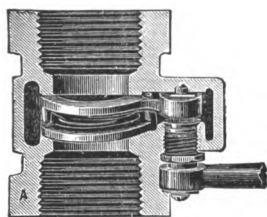
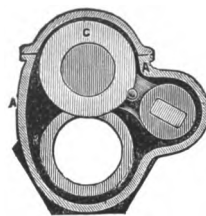


Fig. 430.



Sectional.



Interior Showing Movement of Discs.

THE "HANDY" is designed for Low Pressure Steam, Water, Gas, Oils, etc., for use in Oil Refineries, Breweries, Tanneries, Pulp and Chemical Fibre Mills, Soap, Varnish, and White Lead Works, Creameries, Canning and Packing Establishments; also on Low Pressure Steam, Hot Water Heating and Fire Extinguishing Apparatus, Laundry and Wool Washing Machinery, Railroad Water Stations, etc., and wherever a Lever Valve is wanted for pressures not above 75 pounds.

LUNKENHEIMER'S

“Handy” Gate Valve.

DESCRIPTION.

THE discs are secured to the operating stem and adapted to close against tapering seats in the valve shell, and being provided with ball and socket bearings at their back, are evenly wedged against their seats when valve is closed by the lever. The discs make a tight joint, will not jar open, are under perfect control of the detachable lever and will remain intact at any desired opening.

The stem is provided with a tapering flange upon which bears a non-rotating friction washer. Upon this washer, and bearing down on the flange of stem, the packing is compressed in the usual way by the packing nut. Any necessary friction can be brought to bear on the flanged stem, making the valve work easy or hard; thus the discs will not change position when set at a certain degree of opening. The “Handy” when open presents a full and unobstructed passage, is simple, light in weight, compact, practical in operation, low in price and for many purposes better adapted than gate-valves with wheel handle. The “Handy” can be operated by a rod or rope from a distance.

We make a special, heavy steam valve of this kind, intended for higher pressures, which makes the ideal Throttle for Traction Engines. This pattern we call our Lever Throttle Valve, see Page 30.

PRICE LIST.

Screwed Ends Only, not made with Flange Ends.

SIZE ..inches	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6	8
Brass Body.....each	1 60	1 80	2 50	3 50	5 00	7 50	13 50	19 00	.....	60 00	.....	.....	.....	.....
Iron Body, Brass Trim'gs.....each	.....	.....	.....	.....	.....	9 00	12 00	15 00	18 00	21 00	25 00	30 00	35 00	65 00
All Iron.....each	.....	.....	4 00	4 50	6 00	9 00	12 00	15 00	18 00	21 00	25 00	30 00	35 00	65 00

The “Handy” is also made in Acid Metal at special discount off Brass List; also furnished threaded for casing pipe, or with English Standard Pipe Threads.

LUNKENHEIMER'S Lever Throttle Valve.

SPECIAL HEAVY PATTERN FOR STEAM.

PATENTED.

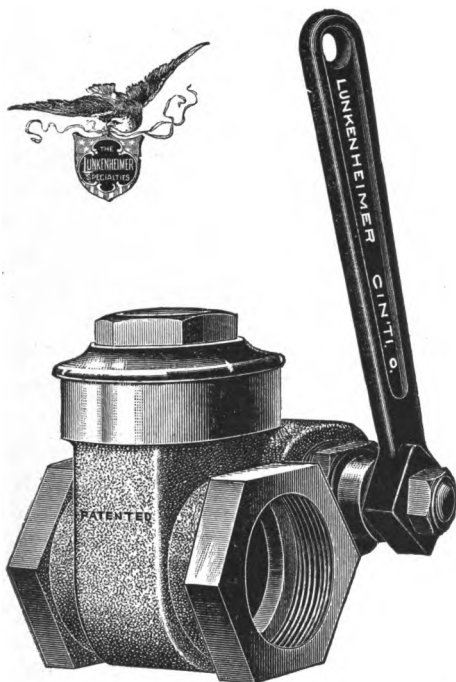
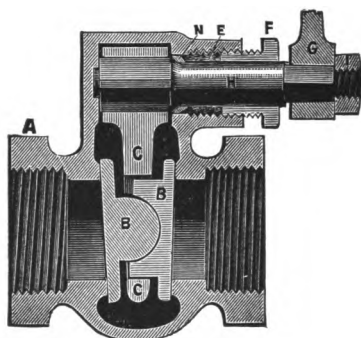


Fig. 431. Brass Body.

DESCRIPTION.

- A—Valve Shell.
- B B—Disks with Ball Joint.
- C C—Oscillating Carrier.
- E—Packing.
- F—Stuffing Box.
- G—Lever.
- H—Stem for operating Carrier C.
- I—Nut to fasten Lever.
- N—Non-rotating Washer bearing against beveled Flange on Stem.



Sectional.

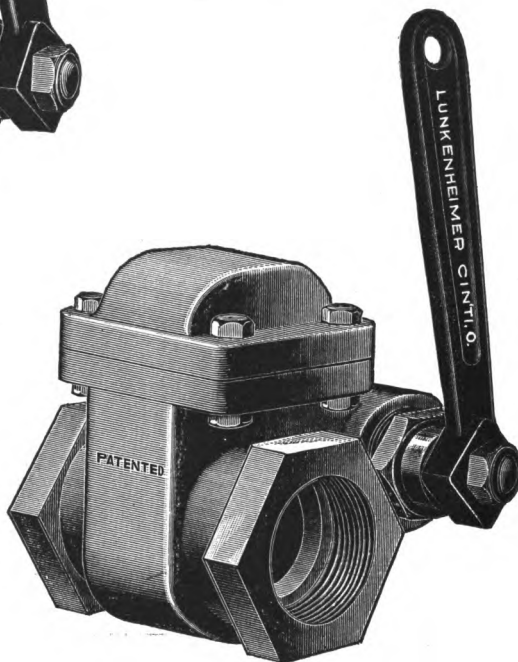


Fig. 432. Iron Body.

LUNKENHEIMER'S

Lever Throttle Valve.

DESCRIPTION.

THIS Valve is especially adapted as a "Throttle" for Traction Engines, Saw Mills, etc., and wherever a compact, simple, durable and reliable Quick-Opening Valve is wanted. It may be operated by the handle or rod attachment, and is so balanced that it can be set at any desired opening. It is constructed of few parts, and therefore will not get out of order. The discs being loose and provided with ball and socket bearings, wear evenly and make a tight joint. All Valves are thoroughly tested before leaving the factory.

They are in practical use by the Leading Traction Engine Builders throughout the United States.

PRICE LIST.

BRASS.

Screw Ends Only, not made with Flange Ends.

SIZE	inches	¾	1	1¼	1½	2	2½
BRASS BODY	each	3 00	4 00	5 00	7 00	10 00	19 00

IRON.

Brass Mounted.

SIZE	inches	2½	3	3½	4	5	6
IRON BODY, Brass Mounted	each	16 00	20 00	25 00	30 00	35 00	40 00

All Valves are provided with Gun Metal Disc Carriers (C).

LUNKENHEIMER'S

Pop Safety Valves.

FOR STATIONARY, PORTABLE AND MARINE STEAM BOILERS.

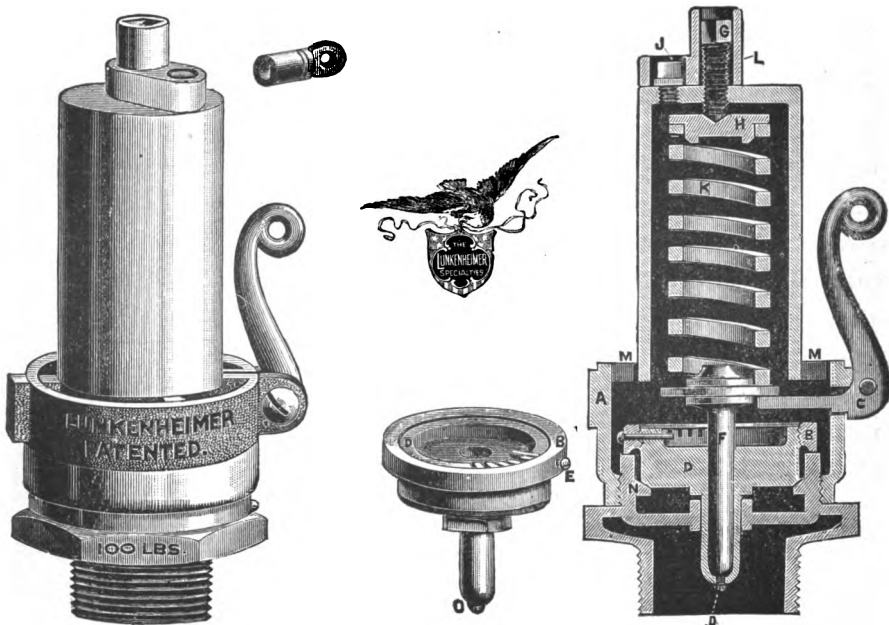


Fig. 433. All Brass.

Sectional.

LUNKENHEIMER'S POP SAFETY VALVES are warranted reliable, accurate and of superior quality. The best of materials are used throughout and the utmost care taken in their construction. They have full relieving capacity and are very sensitive. Special attention is called to the superiority and large size of springs used, making them very durable.

All valves are provided with a lock-key attachment, to guard against being tampered with, and are carefully tested.

They have been approved and allowed by the Board of Supervising Inspectors of Steam Vessels for marine use.

Full directions are sent with every valve.

These valves are also made with "side outlet" for pipe connection to carry off steam, similar to Iron Body Valve, Page 34; for prices see List on Page 33.

LUNKENHEIMER'S

Pop Safety Valves.

FOR STATIONARY, PORTABLE AND MARINE STEAM BOILERS.

DIRECTIONS.

TO TAKE VALVE APART: Use the key to unscrew lock-screw J, take off the top L, and relieve the load on spring by unscrewing the set-screw G. Then take off lever C, and unscrew the casing.

TO SET VALVE AT A HIGHER PRESSURE: Screw set-screw G down; at a lower pressure, screw set-screw up.

TO REGULATE POP: The pop or action of the escaping steam is regulated by the threaded ring B on the disc of valve.

If the valve pops too suddenly and reduces the pressure too much, turn ring B UP (further away from the valve seat), and if it does not pop enough, opening and closing only gradually, then turn ring B DOWN (nearer to the valve-seat). When the desired adjustment is obtained, secure the ring by inserting the pin E; whenever set-screw G is changed, the pop regulating ring B must in most cases also be changed to suit.

TO INSURE PROPER WORKING, POP SAFETY VALVES SHOULD BE ATTACHED IMMEDIATELY UPON THE BOILER, OR AS CLOSE TO SAME AS POSSIBLE; OTHERWISE THE CONNECTING PIPE SHOULD BE AT LEAST ONE SIZE LARGER IN DIAMETER THAN THE SIZE OF THE POP VALVE.

PRICE LIST.

SIZE PIPE.....inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Brass, Top Outlet.....each	5 50	6 00	6 50	7 50	9 00	11 50	18 00	28 00	38 00
Brass, Side Outlet.....each	5 50	6 00	6 50	7 50	9 00	11 50	18 00	28 00	38 00
Capacity for Boilers.....Horse-Powers	3	5	8	10	15	20	30	60-75	75-100

LOW-PRESSURE POP SAFETY VALVES, ALSO SPECIAL RELIEF VALVES MADE TO ORDER. IN ORDERING POP SAFETY VALVES ALWAYS STATE AT WHAT PRESSURE THE VALVE IS TO BLOW OFF. UNLESS OTHERWISE SPECIFIED, POP SAFETY VALVES WILL BE SENT SET AT 100 POUNDS.

EXTRA CHARGE FOR PRESSURES ABOVE AND INCLUDING 130 POUNDS.

1 inch to 2 inch.....	130-150 lbs. 50 cents each net extra.
1 " 2 "	150-200 lbs. 75 " " " "
2 $\frac{1}{2}$ inch and 3 inch	130-150 lbs. 75 " " " "
2 $\frac{1}{2}$ " " 3 "	150 lbs. and above 75 " " " "

LUNKENHEIMER'S Pop Safety Valves.

FOR STATIONARY AND MARINE STEAM BOILERS.

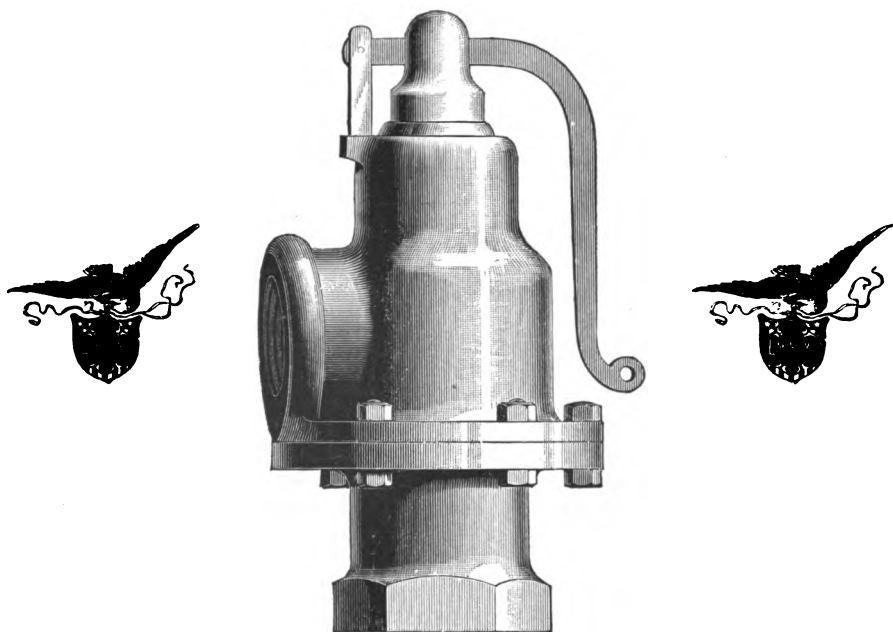


Fig. 434. Iron Body, Angle Outlet.
Screwed Ends.


APPROVED AND ALLOWED BY BOARD OF SUPERVISING INSPECTORS OF
STEAM VESSELS FOR MARINE USE.

For description and how to regulate this Valve, see instructions pages 32 and 33.

Where larger sized valves are desired, we recommend the use of two of either of above size, set within a few pounds of each other. The result of this arrangement will have a tendency to relieve the boiler gradually, thereby preventing any strain on same.

PRICE LIST.

SIZE.....	..inches	2½	3
Iron Angle Outlet, Screw or Flange Ends.....	each	32 00	40 00
Capacity for Boilers.....	Horse-Powers	60-75	75-100

 Water Relief Valves made to order.

LUNKENHEIMER'S Iron Body Globe, Angle and Check Valves.

BRASS MOUNTED—EXTRA QUALITY.

SCREW OR FLANGE ENDS.

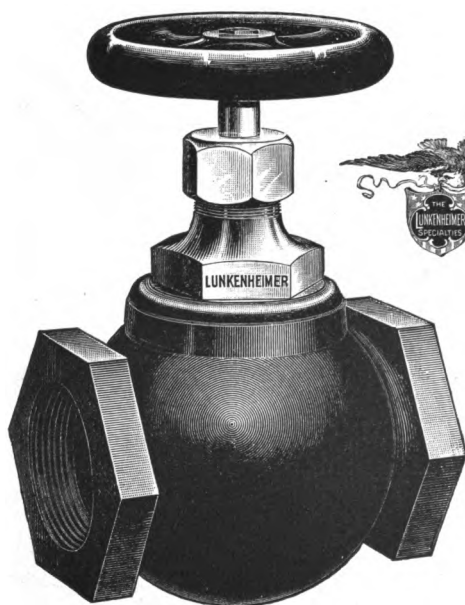


Fig. 435. Iron Body Globe, without Yoke.
Screwed.

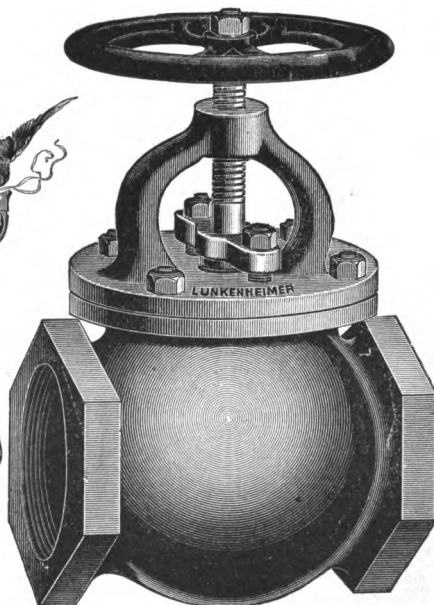


Fig. 436. Iron Body, with Yoke.
Screwed.

PRICE LIST.

SIZE.....inches	1½	2	2½	3
Iron Body Globe and Angle Valves, without Yoke, Screw Ends.....each	3 50	5 00	7 50	10 50
Iron Body Globe and Angle Valves, without Yoke, Flange Ends.....each	5 00	6 75	9 50	13 50

SIZE.....inches	2½	3	3½	4	4½	5	6	8
Iron Body Globe and Angle Valves with Yoke, Screw Ends.....each	10 50	14 50	18 00	21 00	28 00	32 00	44 00	85 00
Iron Body Globe and Angle Valves with Yoke, Flange Ends.....each	12 50	17 50	21 50	25 00	32 00	36 00	49 00	91 00
Diameter of Flanges on Flange Ends.....inches	7	7½	8½	9	9¾	10	11	13½

Iron Body Check Valves.

SIZE.....inches	2	2½	3	3½	4	4½	5	6
Iron Body Horz. and Angle Check Valves, Screw Ends.....each	3 75	6 25	9 75	12 75	15 00	20 00	24 00	33 00
Iron Body Horz. and Angle Check Valves, Flange Ends.....each	5 50	8 25	12 75	16 25	19 00	24 00	28 00	38 00
Diameter of Flanges.....inches	6	7	7½	8½	9	9¾	10	11

LUNKENHEIMER'S

Iron Body Check and Cross Safety Valve

SCREWED OR FLANGED ENDS.

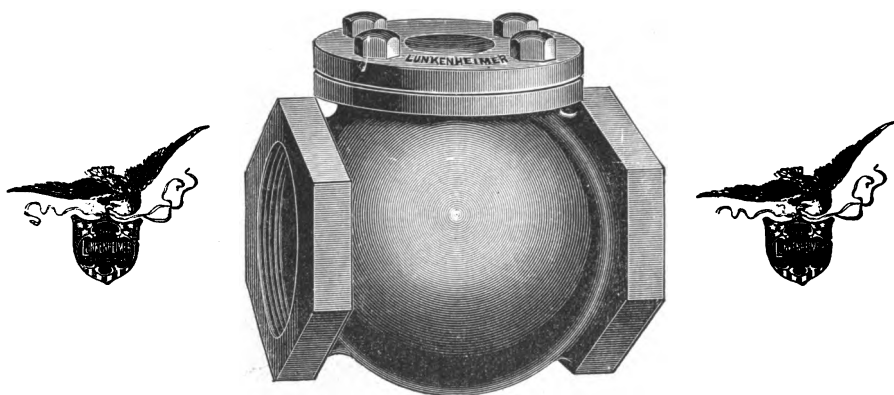


Fig. 437. Iron Body Check Valve.
Screwed Ends.

For Price List of Iron Body Check Valves, see Page 35.

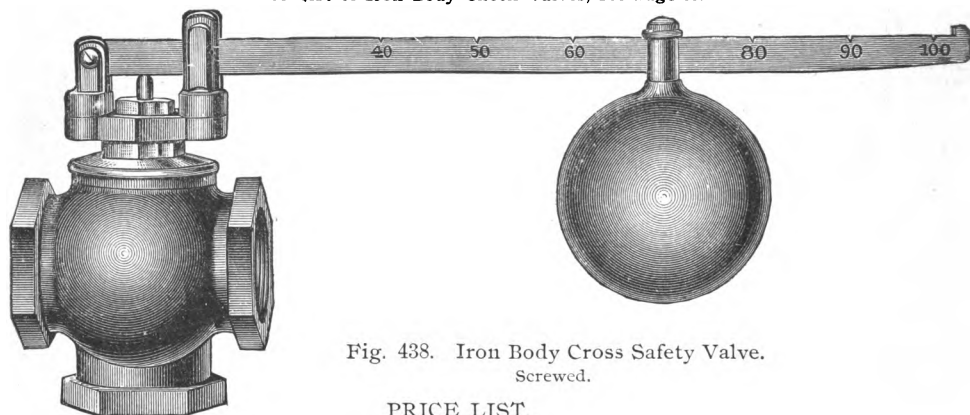


Fig. 438. Iron Body Cross Safety Valve.
Screwed.

PRICE LIST.

Complete with Weight.

SIZE .....inches	1	1½	1½	2	2½	3	3½	4	4½	5	6
Iron Body Cross Safety Valves, Screw Ends.....each	3 50	5 00	6 00	8 00	13 00	18 00	24 00	30 00	36 00	44 00	60 00
Iron Body Cross Safety Valves, Flange Ends .....each				10 50	16 00	22 50	29 25	36 00	42 00	50 00	67 50
Diameter of Flanges.....inches				6	7	7½	8½	9	9¾	10	11
Ball Weights for above.....lbs.	8	10	15	20	30	40	50	70	85	100	140

Brass Cross Safety Valves, with Weights.

SIZE .....inches	¾	1½	¾	1	1½	1½	2
Brass Safety Valves, Screw Ends .....each	2 25	2 75	3 50	5 00	7 00	8 50	12 00
Ball Weights for above.....lbs.		3	5	8	10	15	20

LUNKENHEIMER'S "Indicator" Cock.

FOR ENGINE CYLINDERS.

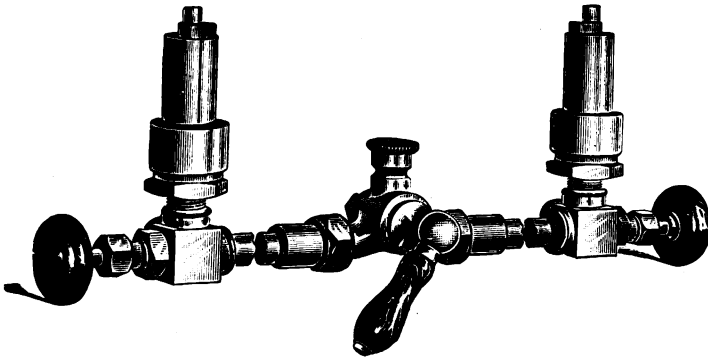


Fig. 439. Complete with Relief and Corner Valves.

PRICE LIST.

Size of Relief Valves.....inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
INDICATOR COCKS, BRASS.....each	10 00	.....	.....	.....	.....	.....
INDICATOR COCKS, NICKEL PLATED.....each	12 00	.....	.....	.....	.....	.....
Complete, Brass.....	32 00	34 00	37 00	40 00	45 00	60 00
Complete, Nickel Plated.....	36 00	38 00	42 00	46 00	53 00	70 00
Without Relief Valves, Brass.....	21 00	.....	.....	.....	.....	.....
Without Relief Valves, Nickel Plated.....	24 00	.....	.....	.....	.....	.....
Relief Val's with Angle Val's only (no Ind. Cock), Brass..per pair	16 00	18 00	21 00	24 00	28 00	40 00
Relief Val's with Angle Val's only (no Ind. Cock), Nk. Pl..per pair	18 00	20 00	23 50	27 00	32 00	45 00
Extra Relief Valves, Brass.....each	4 50	5 00	6 00	7 25	9 00	13 00
Extra Relief Valves, Nickel Plated.....each	5 25	5 75	7 00	8 50	10 50	15 00

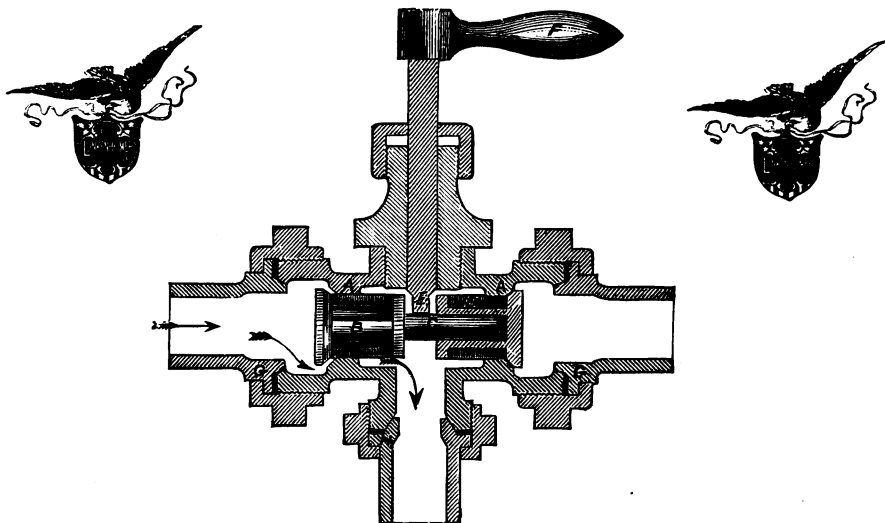
All Indicator Cocks are provided with Expansion Union at one end.

Relief Valves also furnished with angle outlet for pipe connection without extra charge.

In ordering complete Indicator Cocks, always give exact distance from center to center of holes in cylinder.

LUNKENHEIMER'S Automatic Cylinder Cock.

FOR SLIDE VALVE ENGINES AND PUMPS.



No. 440. Sectional view of Cylinder Cock.

LUNKENHEIMER'S CYLINDER COCK automatically removes the condensation from cylinders of SLIDE VALVE Engines and Pumps without loss of steam and is fully warranted to give satisfaction. It consists of two simple winged check valves B B, which close alternately against seats A A, with a lever E F, which can be turned to hold both valves open; union joints G to connect with the drip pipe from both ends of cylinder, and H to lead the drip away, all arranged in a compact, convenient form.

When steam is admitted to one end of the cylinder, the valve B for that end closes under pressure, and forces open by means of stem C the valve for the other end (holding it open for the whole stroke of piston), and allowing the water of condensation to flow out into the drain pipe. This action is reversed when steam enters the other end of cylinder, and so on, alternately, always leaving the exhaust end of the cylinder open for the escape of water.

If desired, both Valves can be held open by turning Lever F.

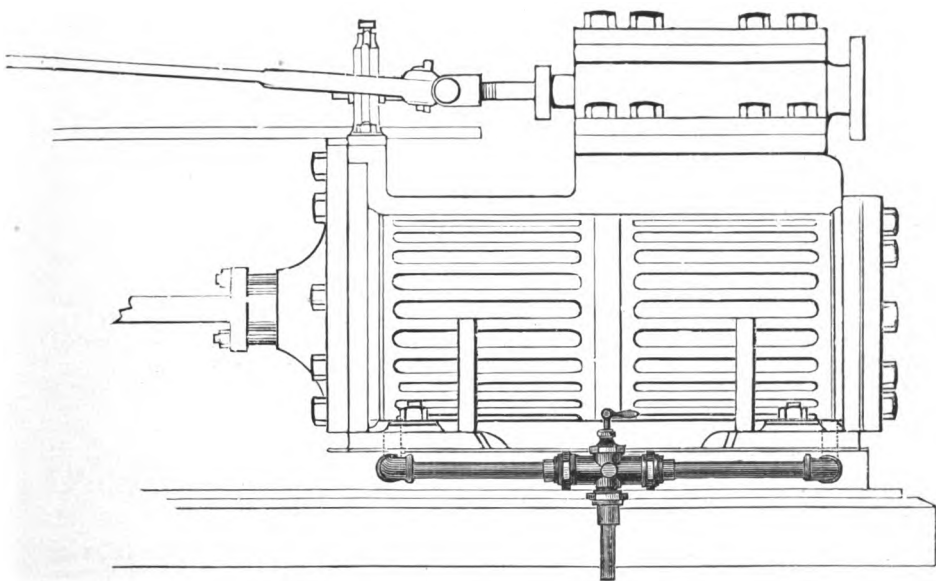
PRICE LIST.

SIZE..inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Adapted to Cylinder.	Up to 6 in. diameter.	From 6 to 10 inches.	From 10 to 14 inches.	From 14 to 20 inches.	From 20 to 30 inches.	From 30 in. upward		
Price .....each	4 00	7 20	9 00	12 00	18 00	28 00	40 00	56 00

Directions furnished with each Cock.

LUNKENHEIMER'S
Automatic Cylinder Cock,

FOR SLIDE VALVE ENGINES AND PUMPS.



CYLINDER COCK AS APPLIED TO CYLINDER OF AN ENGINE.

LUNKENHEIMER'S Improved Brass Steam Whistles.

PATENTED.

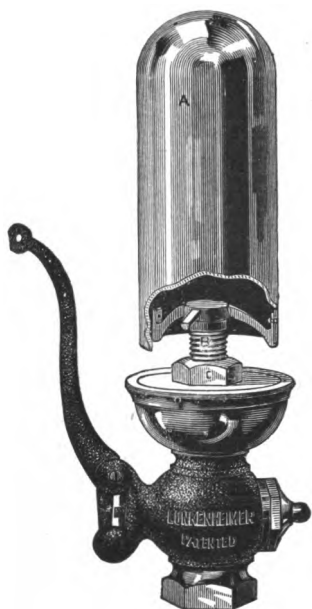


Fig. 441. All Brass,
with Adjustable Lever.

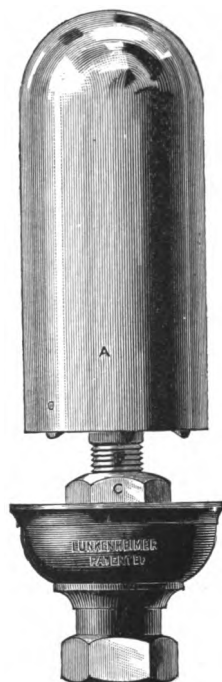


Fig. 442. All Brass,
without Valve.

THIS Whistle will be found a decided improvement over the old style with central stem, owing to several practical advantages, its simplicity and neat appearance. The bell is dome-shaped at its upper end, and at its lower securely supported by a three-armed spider, the stem of which is adjustably screwed into the whistle base and fastened by a jam-nut (C). Owing to this construction the lower edge of the bell is always exactly in line with the slot in the base through which the steam escapes, therefore insuring best results and a perfectly clear and loud tone. The bell is raised or lowered to suit steam pressure by screwing it up or down, and when properly set is fastened by jam-nut (C). All our whistles are made of best material and fully warranted.

PRICE LIST.

Diameter of Bells.....inches	1	1½	1½	2	2½	3	3½	4	5	6	8	10
Size of Pipe Conn.....inches	¾	¾	¾	¾	¾	¾	1	1½	1½	1½	2	2½
Brass Whistles, with Adjustable Lever .....each	3 50	3 75	4 00	4 75	6 50	8 00	11 00	14 00	22 00	30 00	80 00	175 00
Brass Whistles, without Valve.....each	1 70	2 00	2 50	3 25	4 50	6 00	8 50	11 00	18 00	24 00	65 00	125 00
Brass Whistles, without Valve, Long Bell .....each	.....	.....	.....	.....	.....	7 50	10 25	13 50	22 00	31 00	80 00	145 00

Bells on Long Bell Whistles are about three times the diameter.

LUNKENHEIMER'S IMPROVED Iron Base Steam Whistles and Whistle Valves.

PATENTED.



Fig. 443. Iron Base,
Without Valve.

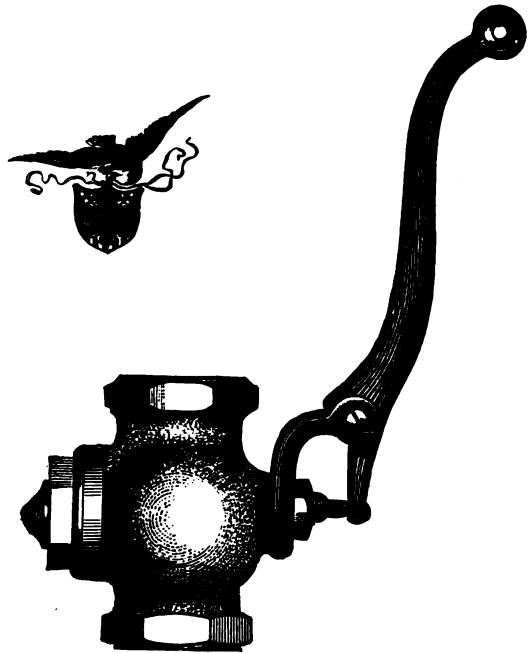


Fig. 444. Whistle Valve,
With Adjustable Lever.

For description of Whistles see page 40.

PRICE LIST.

Diameter of Bells.....inches	3	3½	4	5	6	8	10
Size of Pipe Connection .....inches	¾	1	1¼	1½	1¾	2	2½
Iron Base Whistles, without Valves.....each	5 50	7 25	10 00	16 00	23 00	55 00	100 00
Iron Base Whistles, Long Bell, without Valve.ea	7 00	9 00	12 50	20 00	30 00	70 00	120 00
All Iron Whistles, ex. Long Bell, with't Valve.ea	.....	.....	.....	.....	.....	50 00	75 00

WHISTLE VALVES.

SIZE.....inches	¾	½	¾	1	1¼	1½	2	2½	3
Brass.....each	2 00	2 25	2 75	3 25	4 00	5 50	9 50	20 00	30 00

LUNKENHEIMER'S
Mocking-Bird Whistle.

PATENTED.

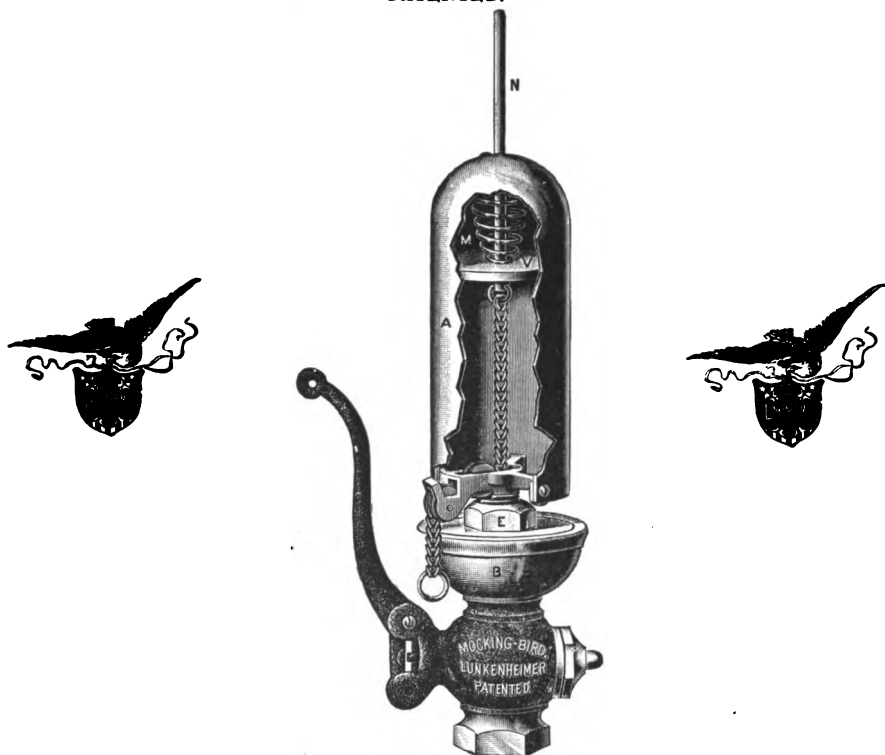


Fig. 445. All Brass, with Valve.

A SIMPLE and practical variable sound Steam Whistle. Especially adapted for Traction Engines, Locomotives, Steamboats, Factory and Mill use. An excellent fire alarm. Attached like any ordinary whistle. The bell is provided with a piston, which is pulled downward by a chain running between pulleys, and, when not in use, is always at the top, being drawn upward by means of a spring. **TO CHANGE THE SOUND, PULL THE CHAIN.**

The dome shaped bell is securely supported at its base by a three armed prong, the stem of which is adjustably screwed into the whistle base, and fastened by jam-nut (E).

Owing to this construction, the lower edge of the bell is always exactly in line with the slot in the base through which the steam escapes, thereby insuring best results and a perfect, clear and loud tone. The bell must be raised or lowered to suit the steam pressure by screwing same up or down, and when properly set fastened by jam-nut (E). Made of the best materials and fully warranted.

PRICE LIST.

Diameter of Bells.....inches	2	2½	3	3½	4	5	6
Size of Pipe Connection.....inches	½	¾	¾	1	1¼	1½	1½
All Brass, with Valve.....each	8 00	10 50	14 00	20 00	28 00	40 00	56 00
All Brass, without Valve.....each	7 00	9 00	12 00	17 50	25 00	37 00	50 00
Iron Base, without Valve.....each			11 50	16 50	23 00	34 00	46 00

For Price List on Whistle Valves, see Page 41.

LUNKENHEIMER'S Improved Combination or Fire Alarm Whistle.

PATENTED.

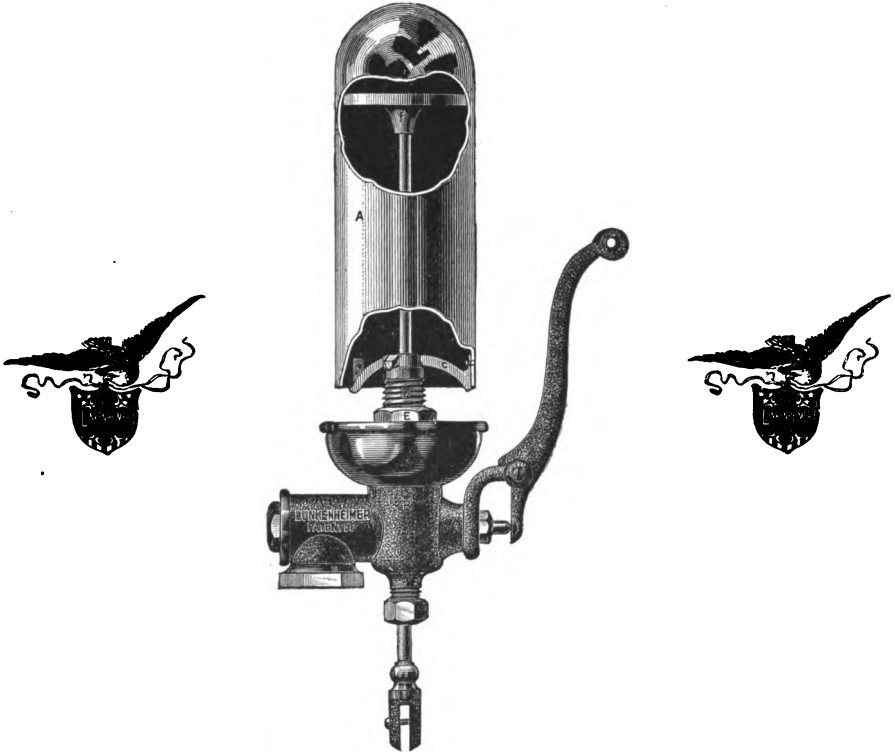


Fig. 446. Complete, with Valve.

THIS Whistle is designed to answer both the purposes of an ordinary whistle as well as that of a Fire Alarm. It is provided with a piston that can be moved up or down within the bell or tube, thus changing the interior length of same and consequently, also the sound of the whistle. When the piston is not operated the whistle gives but one sound, like any ordinary whistle, but when pulled up and down, a howling, penetrating noise is produced. When placed above the roof of a building an extension rod should be coupled to the piston stem and a rope or wire to the whistle valve lever. The bell is dome-shaped at its upper end and at its lower securely supported by a three-armed spider, the stem of which is adjustably screwed into the whistle base and fastened by a jam-nut (E). Owing to this construction the lower edge of the bell is always exactly in line with the slot in the base through which the steam escapes, therefore insuring best results and a perfect, clear and loud tone. The bell is raised or lowered to suit steam pressure by screwing it up or down, and when properly set, is fastened by jam-nut (E). All our whistles are made of best material and fully warranted.

PRICE LIST.

Diameter of Bells.....inches	2½	3½	5	8
Size Pipe Connection.....inches	¾	1	1½	2
Price, with Whistle Valve complete.....each	15 00	20 00	23 00	55 00

LUNKENHEIMER'S Patent Single Bell Chime Whistle.



Fig. 447. All Brass, with Adjustable Lever.



Fig. 448. All Brass, without Valve.

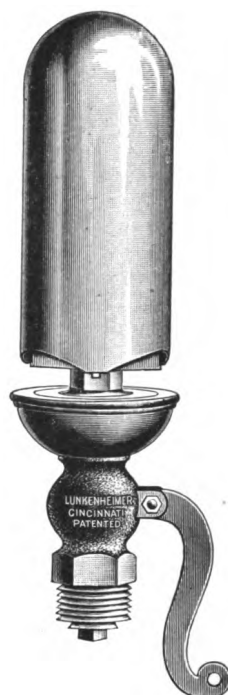


Fig. 449. Locomotive style, with Upright Valve.

OUR new style Single Bell Chime Whistle as seen in the illustrations above is unique and handsome in appearance, and produces harmoniously three distinct tones which blend and form a beautiful musical chord. The sounds given forth from our style of Chime Whistle, while being more acute and piercing than the common whistle, have not the harsh and disagreeable qualities of the latter and can be heard at a greater distance. Another advantage of this style of construction is that the bell may be raised or lowered to suit varying steam pressures, a feature that is found only on whistles of our manufacture.

TO ADJUST THE BELL:—Loosen jam-nut (C) and screw the bell up or down, until the whistle blows best, then fasten the jam-nut.

PRICE LIST.

Diameter of Bells.....Inches	2	2½	3	3½	4	5	6	8	10
Size of Pipe Connect'n .Inches	½	¾	¾	1	1¼	1½	1½	2	2½
All Brass, with Adjust. Lever..each	10 00	13 00	16 00	22 00	28 00	44 00	60 00	145 00	235 00
All Brass, without Valve..each	8 50	10 50	13 50	18 50	24 00	37 00	49 00	120 00	188 00
Iron Base, without Valve..each	.....	.....	12 00	16 50	22 00	33 00	45 00	108 00	155 00
All Brass, Locom. style...each	.....	.....	.....	.....	27 50	43 00	59 00	.....	.....

For Price List on Whistle Valves see page 41.

LUNKENHEIMER'S Improved Three-Whistle Chime.

PATENTED.

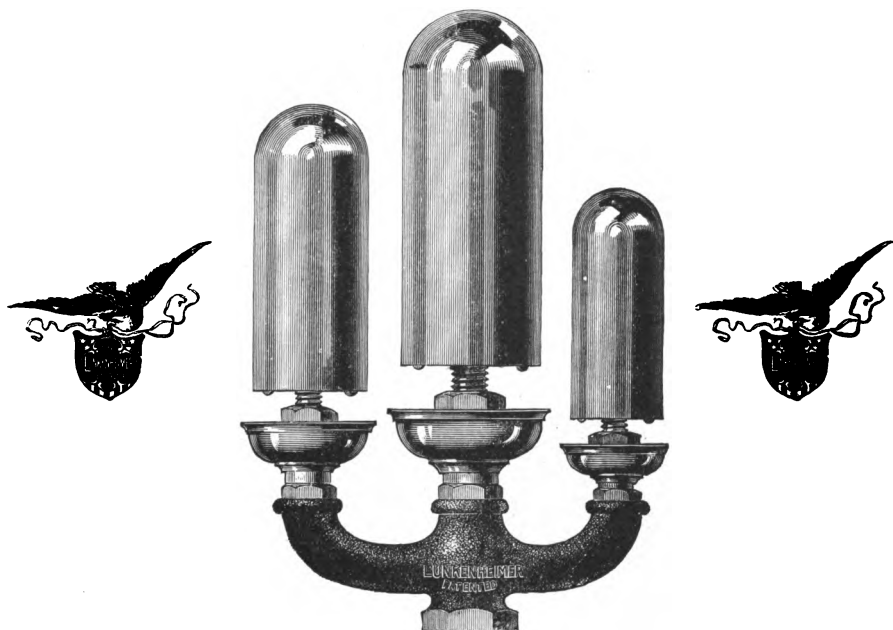


Fig. 450. Three-Whistle Chime.

For Description of Whistles used on our Chimes, see Page 40.

PRICE LIST.

THREE-WHISTLE CHIMES, CORRECTLY TUNED.

No. 1.

Composed of one each $1\frac{1}{2}$, 2 and $2\frac{1}{2}$ inch Whistles..... 22 00
Size Pipe Connection, 1 inch.

No. 2.

Composed of one each $3\frac{1}{2}$, 4 and 5 inch Whistles..... 40 00
Size Pipe Connection, $1\frac{1}{2}$ inch.

No. 3.

Composed of one each 5, 6 and 8 inch Whistles..... 109 00
Size Pipe Connection, 3 inch.

NOTICE.—Whistle Valves for above are extra and Chimes will be sent complete with Valve, unless otherwise ordered.

For Price List on Whistle Valves, see Page 41.

LUNKENHEIMER'S Low Water Alarm for Steam Boilers.

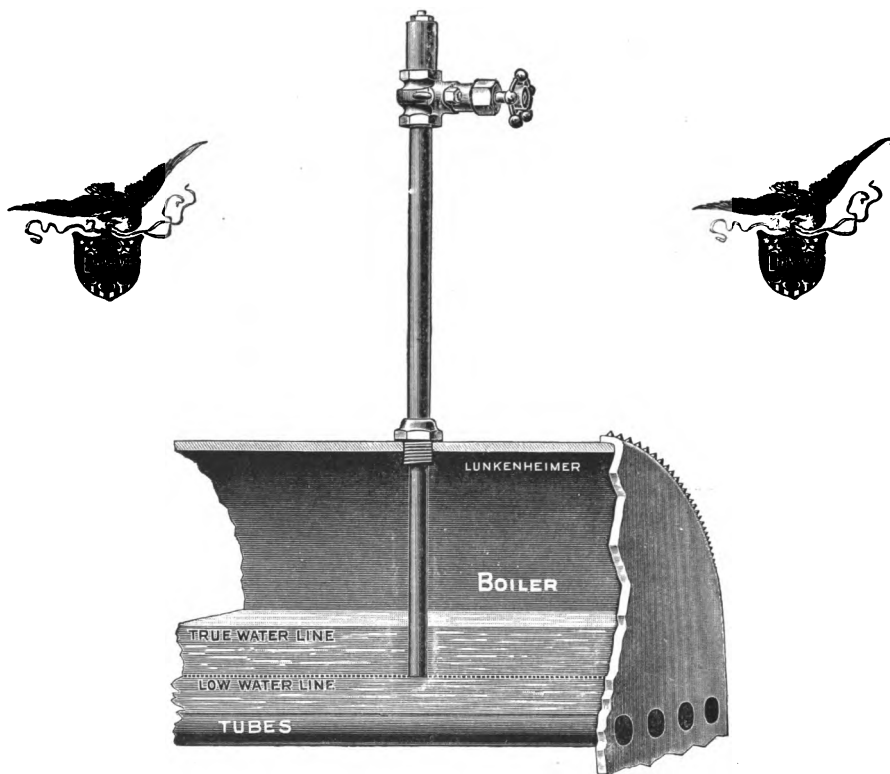


Fig. 451. Low Water Alarm Applied to a Boiler.

OUR FUSIBLE LOW WATER ALARM is simple, practical and inexpensive and so easily attached that no Steam Boiler should be without one. It is an attachment as important and necessary to a Steam Boiler as a Steam Gauge or Safety Valve, and is really more reliable as it cannot get out of order. This alarm has no floats or complicated whistle blowing arrangements, but is simply a tube with one end reaching down to the low water line while the other has a valve and fusible plug attached.

The operation is thus: When the water in boiler drops down below the end of the tube it drains the water out of the tube and permits steam to enter, which melts the fusible metal and with a loud report the steam hisses through the pipe and thus gives notice of the approaching danger. The valve is then shut off, a new fusible disc attached, the valve opened and the alarm is again ready. Each alarm is supplied with several fusible discs and extra ones can be supplied at a small cost. Our Low Water Alarms are fully warranted to give satisfaction.

PRICE LIST.

LOW WATER ALARM COMPLETE WITH 3 EXTRA FUSIBLE DISCS.....EACH,	7 00
EXTRA FUSIBLE DISCS.....PER DOZEN,	3 25

LUNKENHEIMER'S

Gas Service and Meter Cocks.

FLAT OR SQUARE HEADS.

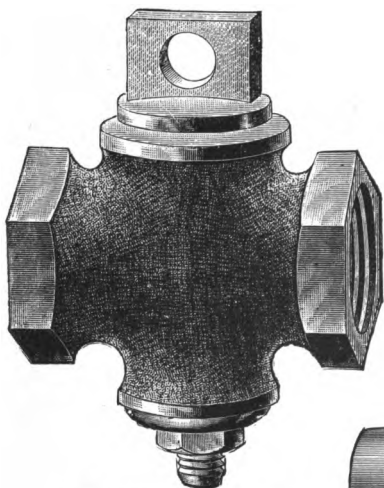


Fig. 452. Service Cock.

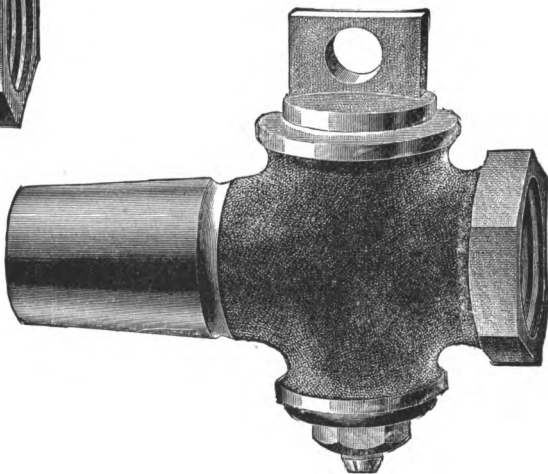


Fig. 453. Meter Cock.

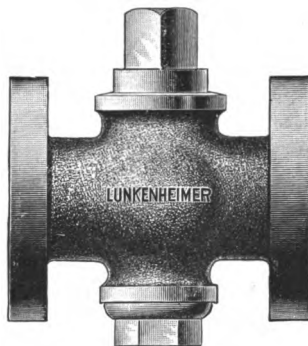
PRICE LIST.

SIZE.....inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Service Cocks.....each	55	65	75	1 00	1 40	2 20	3 00	5 00	10 00	15 00
T Handle.....each	55	65	75	1 00	1 40					
T Handle, with Check Pin.....each	65	75	85	1 10	1 55					
Meter Cocks.....each			85	1 20	1 70	2 60	3 60	5 75		

LUNKENHEIMER'S

Steam Stop Cocks and Brass Unions.

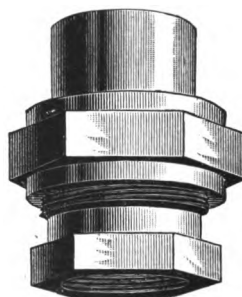
STEAM METAL—SUPERIOR QUALITY

Fig. 454. Steam Stop Cock.
Square Head.Fig. 455. Flanged End Steam
Stop Cock, Square Head.Fig. 456. Steam Stop
Cock, Flat Head.

PRICE LIST.

SIZE.....inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Medium.....each	70	70	75	1 10	1 50	2 25	3 75	4 80	7 25	14 00	20 00	36 00	50 00
Heavy.....each		80	95	1 30	1 90	2 75	4 50	5 75	9 00	17 00	25 00		
Male and Fem. Med. ea		80	85	1 20	1 70	2 55	4 15	5 40	8 00	15 50	22 00		
T Handle.....each		70	75	1 10									
Price, Fig. 455.....each					4 50	5 50	8 00	10 00	15 00	22 00	32 00		
Diam. of Flanges Flange Ends.....inches					3 1/2	4	4 1/2	5	6	7	7 1/2		
Length Face to Face, Flange Ends.....inches					3	3 3/8	3 7/8	4 3/8	5 3/8	6	7 1/2		
Mal. Iron Levers.....each		07	08	09	15	25	35	45	80	1 00	1 25	1 50	1 75

In ordering specify whether Flat or Square Heads are wanted.

Fig. 457. Rough, Heavy Government
Union, Ground Joint.Fig. 458. Finished Union,
Ground Joint.

PRICE LIST.

SIZE.....inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Brass Unions, Ground Joint, Finished ea	40	55	75	1 00	1 40	1 90	2 75	4 00	6 00	8 50
Brass Unions, Ground Joint, Government, Rough.....each	40	55	75	1 00	1 40	1 90	2 75	4 00	6 00	8 50

LUNKENHEIMER'S Water Gauges.

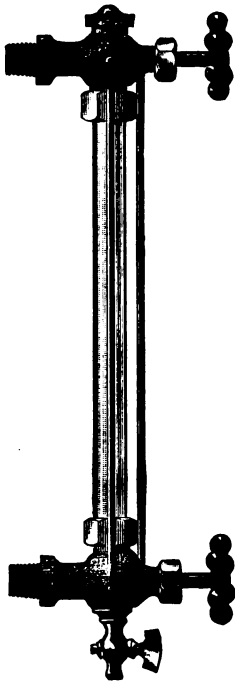


Fig. 459. Two-Rod.

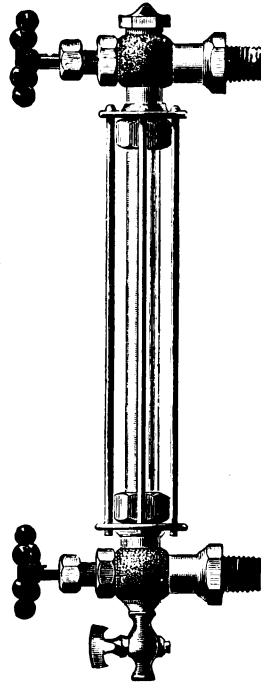


Fig. 460. Three-Rod,
with Regrinding Valves.

PRICE LIST.

Two-Rod Part Finished, Bronzed Body, $\frac{5}{8}$ Glass, $\frac{1}{2}$ inch Pipe.....	each	3 00
Two-Rod Part Finished, Bronzed Body, $\frac{3}{4}$ Glass, $\frac{3}{4}$ inch Pipe.....	each	6 00
Two-Rod All Finished, $\frac{5}{8}$ Glass, $\frac{1}{2}$ inch Pipe.....	each	3 75
Two-Rod All Finished, $\frac{3}{4}$ Glass, $\frac{3}{4}$ inch Pipe.....	each	8 00
Three-Rod Part Finished, Bronzed Body, $\frac{5}{8}$ Glass, $\frac{3}{8}$ inch Pipe.....	each	3 50
Three-Rod Part Finished, Bronzed Body, $\frac{5}{8}$ Glass, $\frac{1}{2}$ inch Pipe.....	each	4 00
Three-Rod All Finished, $\frac{5}{8}$ Glass, $\frac{1}{2}$ inch Pipe.....	each	5 00
Three-Rod Part Finished, Bronzed Body, $\frac{3}{4}$ Glass, $\frac{3}{4}$ inch Pipe.....	each	8 00
Three-Rod All Finished, $\frac{3}{4}$ Glass, $\frac{3}{4}$ inch Pipe.....	each	9 50
Four-Rod Part Finished, Bronzed Body, $\frac{3}{4}$ Glass, $\frac{3}{4}$ inch Pipe.....	each	8 50
Four-Rod All Finished, $\frac{3}{4}$ Glass, $\frac{3}{4}$ inch Pipe.....	each	10 00

All our Water Gauges have a plug in top for replacing glass tube.

LUNKENHEIMER'S Combination Water Column.

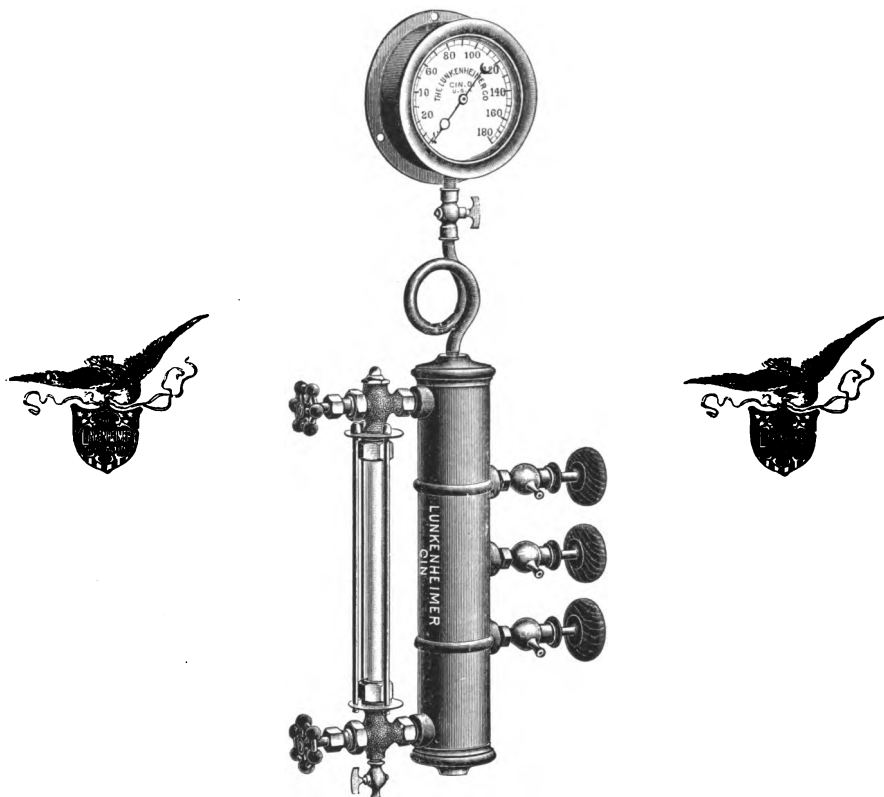


Fig. 461. Combination Water Column, with Steam Gauge.

PRICE LIST.

- No. 1—Combination, Iron Column, $2\frac{1}{2}$ inches in diameter, $13\frac{1}{2}$ inches long, Boiler Connections 11 inches between centers, furnished with one 2-Rod, Part Finished Gauge, $\frac{5}{8} \times 9\frac{3}{4}$ inch Glass, three $\frac{3}{8}$ inch Soft Seat Compression Gauge Cocks and two $\frac{1}{2}$ inch Brass Unions for Boiler Connections (without Steam Gauge).....each, 13 00
- No. 2—Combination, Iron Column, 3 inches in diameter, 16 inches long, Boiler Connections 12 $\frac{3}{4}$ inches between centers, furnished with one 3-Rod, Part Finished Gauge, $\frac{5}{8} \times 11\frac{1}{4}$ inch Glass, three $\frac{3}{8}$ inch Soft Seat Compression Gauge Cocks and two $\frac{1}{2}$ inch Brass Unions for Boiler Connections (without Steam Gauge).....each, 15 00
- No. 3—Combination, Iron Column, 4 inches in diameter, 19 inches long, tapped for 1 inch Pipe Top and Bottom, furnished with one 2-Rod, Part Finished Gauge, $\frac{3}{4} \times 12\frac{1}{2}$ inch Glass, three $\frac{3}{8}$ inch Regrinding Compression Gauge Cocks (without Steam Gauge).....each, 19 00

We also furnish No. 2 tapped at both ends for 1 inch Pipe, when specially ordered, without extra charge.

All our Water Gauges have a Plug in top for replacing Glass Tube.

NOTICE—Steam Gauges for Combination Gauges extra.

LUNKENHEIMER'S Steam Gauges, Fusible Plugs, Syphons and Scotch Glass Tubes.



Fig. 462. Steam Gauge.



Fig. 463. Fusible Plug.



Fig. 464. Syphon.

Impr. Single Spring Bourdon Steam Gauges.

PRICE LIST (Including Cock).

SIZE.	Iron Case, Brass R'g.	Iron Case, N. P. Ring.	Brass Case.	N. P. Case.
12 in. Dial.	\$50 00	\$51 50	\$75 00	\$79 00
10 " "	32 00	33 00	40 00	43 00
8 1/2 " "	22 00	22 75	30 00	32 50
6 3/4 " "	16 00	16 60	20 00	22 00
6 " "	13 00	13 50	16 00	17 50
5 1/2 " "	10 00	10 25	12 00	13 25
5 " "	8 00	8 20	11 00	12 00
4 1/2 " "	8 00	8 20	10 00	11 00
3 1/2 " "	7 00	7 18	9 00	9 75
3 " "	6 00	6 15	8 00	8 60

Fusible Plugs and Syphons.

PRICE LIST.

SIZE	1/4	1/2	3/4	1	1 1/4	1 1/2	2
Fusible Plugs.....each	60	75	1 00	1 50	2 00	3 00	
Steam Gauge Syphons.....each	50						

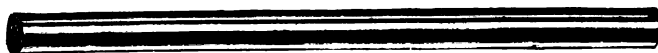


Fig. 465. Scotch Glass Tube.

PRICE LIST.

Glass Tubes, 1/2 or 3/4 in. Diam., Length.....inch	10	11	12	13	14	15	16	17	18	19	20	22	24
Price.....per doz.	4 80	4 80	5 40	5 40	6 00	6 60	7 20	7 80	8 40	9 00	9 60	10 80	12 00
Glass Tubes, 1/2 in. Diam., Length.....inch	10	11	12	13	14	15	16	17	18	19	20	22	24
Price.....per doz.	6 60	6 60	6 60	6 60	7 20	7 20	7 80	8 40	9 00	9 60	10 20	11 40	12 60

Prices on Glass Tubes above 24 inches upon application.

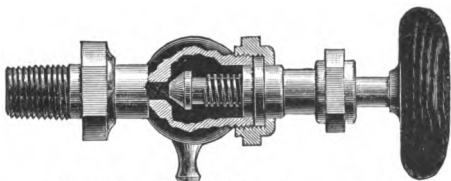
LUNKENHEIMER'S
Gauge Cocks.

Fig. 466. Regrinding Gauge Cock.

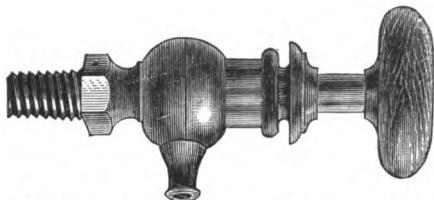


Fig. 467. Soft Metal Seat Compression Gauge Cock.

Fig. 468.
Mississippi Gauge
Cock.Fig. 469.
Register Gauge
Cock.

PRICE LIST.

Number.....	00	0	1	2	3	4
Size Blank Shank.....inches	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{4}$	1	$\frac{7}{8}$	1
Cut for Pipe Thread.....inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{4}$
Fig. 466, Regrinding Gauge Cock.....each		1 05	1 30	1 80		
Fig. 467, Soft Seat Compression Gauge Cock.....each	80	90	1 00	1 10		
Fig. 467, Soft Seat, with Stuffing-Box.....each	1 00	1 10	1 20	1 30		
Fig. 469, Register Gauge Cock.....each					90	1 00

PRICE LIST.

Size Blank Shank.....inches	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Cut for Pipe Thread.....inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$
Fig. 468, Price, Mississippi.....each	75	1 00	1 25	1 50

LUNKENHEIMER'S Cylinder and Steam Gauge Cocks.

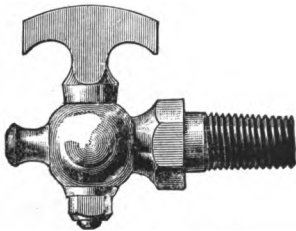


Fig. 470. Cylinder Cock, T. H.

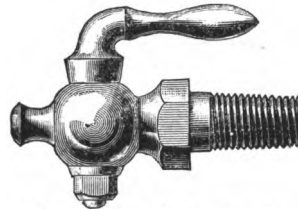


Fig. 471. Cylinder Cock,
Short Shank, L. H.

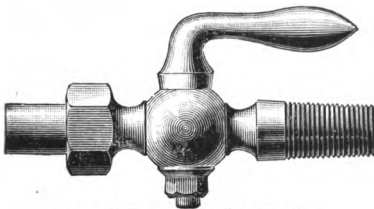


Fig. 472. Cylinder Cock,
with Union, L. H.

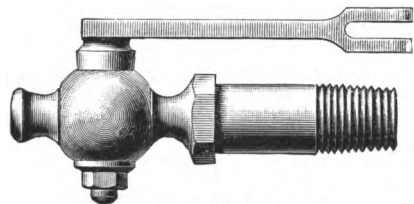


Fig. 473. Cylinder Cock
for Traction Engine.

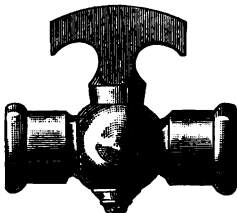


Fig. 474. Steam Gauge Cock,
Female Ends.

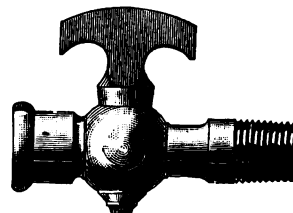


Fig. 475. Steam Gauge Cock
Male and Female Ends.

PRICE LIST.

Number.....	1	2	3	4	5	6
Size of Blank Shank.....inch	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Size of Shank Pipe Thread.....inch	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
Fig. 470. T. H. Cylinder Cock.....each	75	85	95	1 25	1 75	2 25
Fig. 470. With Extra Long Shank.....each	80	1 00	1 25	1 35	2 00	2 50
Fig. 471. L. H. Cylinder Cock.....each	90	1 00	1 10	1 50	2 00	2 50
Fig. 471. With Extra Long Shank.....each	1 00	1 15	1 35	1 65	2 25	2 75
Fig. 472. L. H. Cylinder Cock, with Union.....each	1 40	1 50	1 60	1 75	2 25	3 00
Fig. 473. Traction Cylinder Cock.....each	1 15	1 30	1 40	1 85	.....	.....
Fig. 473. Traction Cylinder Cock, with Union.....each	1 70	1 80	1 95	2 20	.....	.....
Fig. 474. T. H. Steam Gauge Cock, Female Ends.....each	75	85	95	.....	.....	.....
L. H. Steam Gauge Cocks, Female Ends.....each	90	1 00	1 10	.....	.....	.....
Fig. 475. T. H. Steam Gauge Cock, Male and Female Ends.....each	75	85	95	.....	.....	.....
L. H. Steam Gauge Cocks, Male and Female Ends.....each	90	1 00	1 10	.....	.....	.....
L. H. Steam Gauge Cock, with Union.....each	1 40	1 50	1 60	.....	.....	.....

Unless otherwise ordered, L. H. Cylinder Cocks will be sent with Angle,
and T. H. with Straight Outlets.

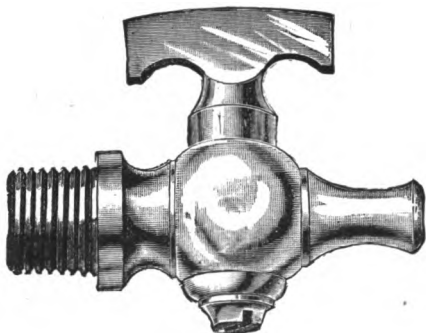
LUNKENHEIMER'S
Air Cocks.

Fig. 476. Air Cock, T. H. and Shoulder.

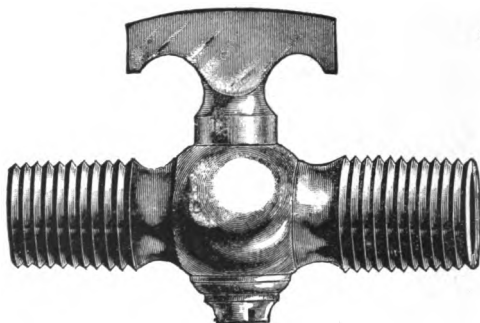


Fig. 477. Air Cock, Double End, T. H.

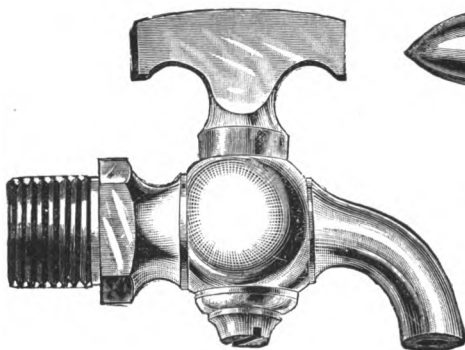


Fig. 478. Air Cock, Bibb Nose, T. II.

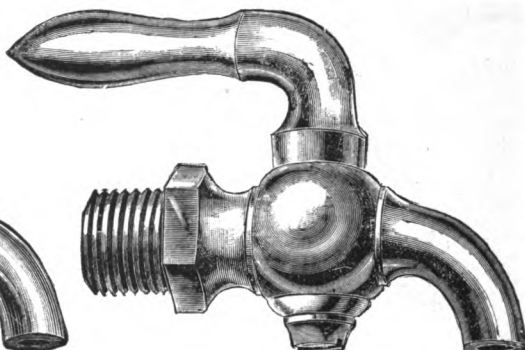


Fig. 479. Air Cock, Bibb Nose, L. H.

PRICE LIST.

Number.....	1	2	3	4
Size of Blank Shank.....inch	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Size of Shank Pipe Thread.....inch	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Fig. 476. T. H. and Shoulder Air Cocks.....each	40	50	60	80
Fig. 477. T. H. Double End Air Cocks.....each	50	60	70	1 00
Fig. 477. L. H. Double End Air Cocks.....each	60	70	80	1 10
Fig. 478. T. H. Bibb Nose Air Cocks.....each	65	75	90	1 10
Fig. 479. L. H. Bibb Nose Air Cocks.....each	75	85	1 00	1 20
T. II. Bibb Nose Air Cocks, Hose Ends.....each	90	1 00	1 25	1 50
L. H. Bibb Nose Air Cocks, Hose Ends.....each	1 00	1 10	1 35	1 75

LUNKENHEIMER'S

Steam Bibbs.

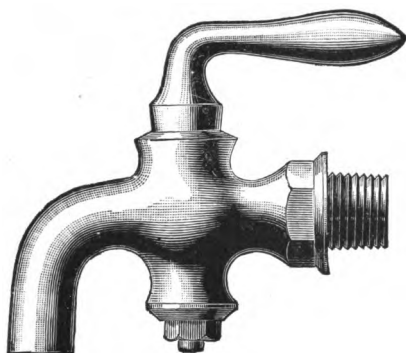


Fig. 480. Steam Bibb,
Screwed for Iron Pipe.

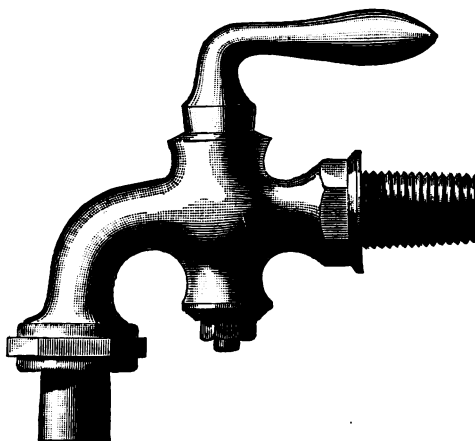


Fig. 481. Steam Bibb,
with Union.

PRICE LIST.

Size Iron Pipe .....inch	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Fig. 480. Rough Steam Bibbs.....each	1 00	1 25	1 50	2 50	3 50	5 00	8 00	15 00
Fig. 480. Finished Steam Bibbs.....each	1 25	1 50	2 00	3 00	4 50	6 00	10 00	18 00
Fig. 481. Rough Steam Bibbs, with Union on Nose.....ea	1 25	1 50	2 00	3 00	4 50	6 00	10 00	18 00
Fig. 481. Finished Steam Bibbs, with Union on Nose.....each	1 50	1 75	2 50	3 50	5 50	7 00	12 00	20 00

LUNKENHEIMER'S Improved "Senior" Sight-Feed Lubricator.

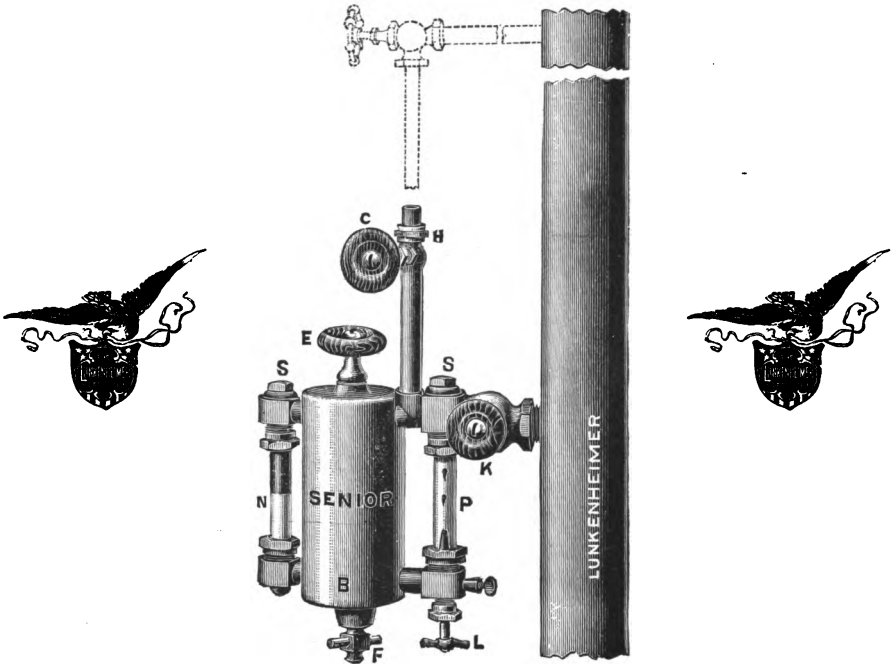


Fig. 482. "Senior."

DESCRIPTION.

- | | |
|---|---|
| <p>B—Oil Reservoir.
 C—Upper Valve.
 E—Filling Plug.
 F—Drain Valve.
 H—Union to connect Condenser Pipe and Valve.</p> | <p>K—Discharge Valve.
 L—Valve for regulating flow of oil.
 N—Indicator Glass.
 P—Sight-feed Glass.
 Valve to drain or blow out Sight-Feed Glass P.</p> |
|---|---|

SPECIAL FEATURES AND ADVANTAGES.

No condensing bulb or chamber to freeze and burst.

Filling plug on top of oil chamber.

Plugs S to facilitate replacing and cleansing of glasses.

Vent to blow out sight-feed glass P.

Shanks on $\frac{1}{3}$ and $\frac{1}{2}$ pint sizes threaded for $\frac{3}{8}$ inch pipe instead of $\frac{1}{2}$ inch, consequently can be easily attached to small steam pipes.

These advantages, combined with neat design, superior workmanship and finish, make the "Senior" the most modern and efficient sight-feed lubricator in the market. Every cup is tested and warranted.

Directions for Connecting and Operating the "Senior."

Drill and tap Steam Pipe above the Throttle Valve to receive Oil Discharge Shank, and higher up for $\frac{1}{4}$ inch pipe thread for Condenser Pipe and Angle Valve.

To operate, close valves C, L, and K.

Drain the Lubricator by opening valve F. Close valve F and fill (FULL) with oil at E.

After filling, open valve K SLOWLY, and wait until Sight-Feed Glass P has filled with water by condensation, then open valve C and regulate the oil drops with valve L.

After the first filling with oil, valve K need not be closed; as long as glass tube P is full of clear water it is only necessary to close valves C and L to refill.

The bottom Sight-feed Glass fitting is provided with a Drain Valve for blowing out or draining Sight-feed Glass.

Indicator Glass N shows the quantity of oil in the Oil Reservoir.

If Indicator Glass N, or Sight-feed Glass P, break, they can be replaced by unscrewing Plugs S, and slipping glasses through from the top. This feature in construction of the Lubricator also facilitates cleansing the glasses.

All Lubricators are neatly packed in wooden boxes with sliding lids.

PRICE LIST.

SIZE.....	$\frac{1}{2}$ Pt.	$\frac{1}{2}$ Pt.	$\frac{3}{4}$ Pt.	1 Pt.	1 $\frac{1}{2}$ Pt.	1 Qt.	$\frac{1}{2}$ Gal.	1 Gal.
Suitable for Engine Cylinders.....	Up to 6 inches.	6 to 10 inches.	10 to 14 inches.	14 to 18 inches.	18 to 24 inches.	24 to 30 inches.	From 30 up.	"
Shanks, Threaded.....pipe thread	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Finished Brass.....each	15 00	17 00	20 00	22 00	25 00	28 00	38 00	60 00
Nickel Plated.....each	17 00	19 00	22 50	25 00	28 50	32 00	43 00	65 00
Condenser Connections, Brass Tubing and Angle Valve.....each	70	80	1 00	1 20	1 40	1 50	1 60	1 70
Condenser Connections, Brass Tubing and Angle Valve, Nickel Plated.....each	80	90	1 15	1 40	1 60	1 70	1 80	2 00
Length of Cond. Pipes necessary.....inch	18	24	30	36	42	48	60	72

Lubricators are sent without Condenser Pipes and Angle Valve, unless ordered otherwise.

LUNKENHEIMER'S

Spray-Feed Lubricator.

FOR STEAM CHEST.

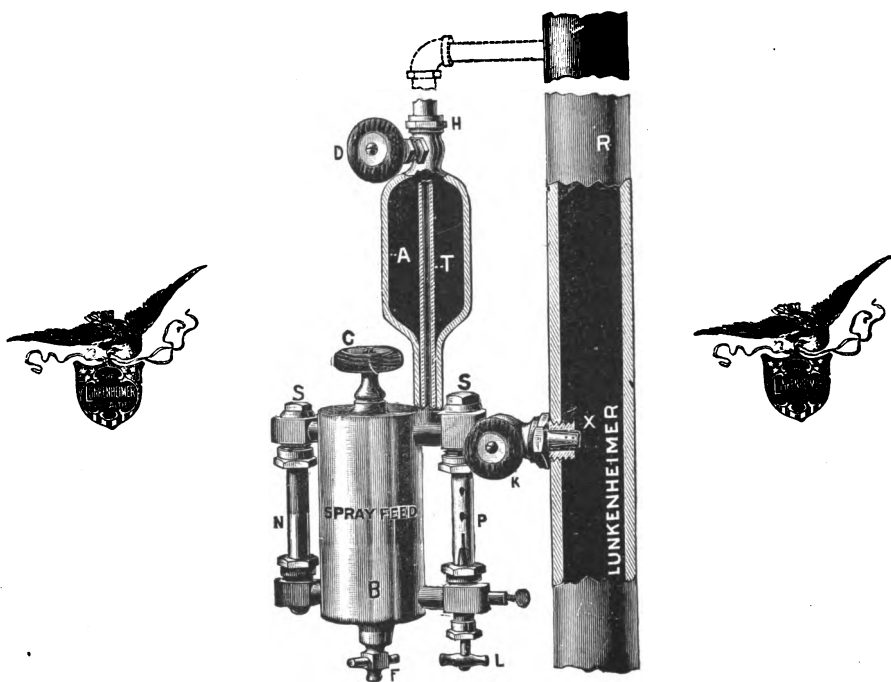


Fig. 483. "Spray-Feed."

DESCRIPTION.

A—Condensing Chamber.

B—Oil Reservoir.

C—Filling Plug.

D—Upper Steam Valve.

F—Drain Valve.

K—Lower Steam Valve.

L—Valve for regulating flow of Oil.

N—Indicator Glass.

P—Sight-Feed Glass.

R—Steam Pipe.

S S—Plugs for cleansing and replacing Glass.

T—Circulating Tube.

X—Spray Nozzle.

LUNKENHEIMER'S

"Spray-Feed" Lubricator.

THE LUNKENHEIMER "SPRAY-FEED" LUBRICATOR is specially adapted for attachment to steam chest or to steam pipe between throttle and steam chest. It effects a large saving of oil over other Sight-Feed Lubricators. The "Spray-Feed" system of feeding oil consists in forcing the oil (after it has passed in drops up through the glass tube) into the steam pipe in the form of a "spray," thus atomizing it with the steam before it reaches the parts to be lubricated. With this lubricator feed only two-thirds the number of drops as are required with ordinary cups. These cups are stamped "Spray-Feed," and fully warranted.

DIRECTIONS.

Tap the Steam Pipe for the Oil Discharge Shank, and higher up one-quarter inch pipe thread for Condenser Pipe, Elbow or Angle Valve.

Connect Condenser A with steam pipe by Condenser Pipes, Elbow or Angle Valve and Union H. To fill and operate, close valves L, K and D, drain the cup at F, and fill (FULL) with oil. Then open valves K and D SLOWLY, and after sight-feed glass P has filled with water by condensation, regulate oil drops at L.

Always close valves K, D and L, before draining and refilling.

Indicator Glass N shows the quantity of oil in the Oil Reservoir.

If Indicator Glass N, or Sight-Feed Glass P, break, they can be replaced by unscrewing Plugs S, and slipping glasses through from the top. This feature in construction of the Lubricator also facilitates cleansing the glasses.

The bottom Sight-Feed Glass fitting is provided with a Drain Valve for blowing out or draining Sight-Feed Glass.

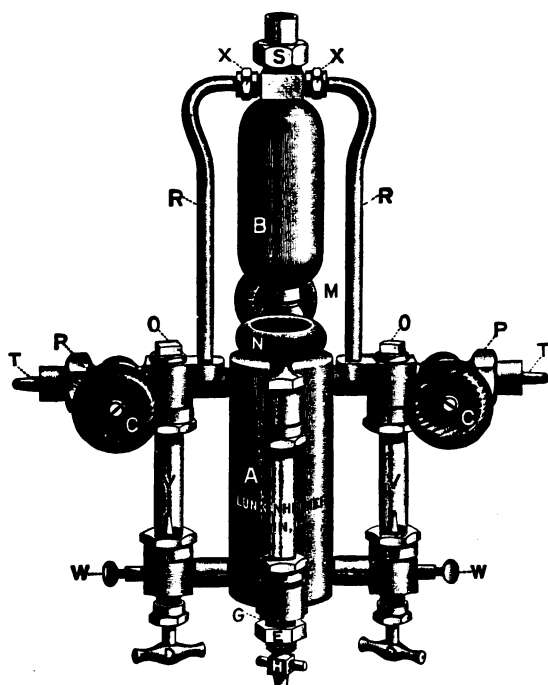
All Lubricators are neatly packed in wooden boxes with sliding lids.

PRICE LIST.

SIZE	½ Pt.	½ Pt.	¾ Pt.	1 Pt.	1½ Pt.	1 Qt.	½ Gal.	1 Gal.
Suitable for Engine Cylinders.....	Up to 6 inches	6 to 10 inches	10 to 14 inches	14 to 18 inches	18 to 24 inches	24 to 30 inches	From 30 up.	
Shanks Threaded.....pipe thread	¾	¾	½	½	½	½	½	½
Finished Brass.....each	15 00	17 00	20 00	22 00	25 00	28 00	38 00	60 00
Nickel Plated.....each	17 00	19 00	22 50	25 00	28 50	32 00	43 00	65 00
Condenser Connections, Brass Tubing and Angle Valve.....each	70	80	1 00	1 20	1 40	1 50	1 60	1 70
Condenser Connections, Brass Tubing and Angle Valve, Nickel Plated.....each	80	90	1 15	1 40	1 60	1 70	1 80	2 00
Length of Condenser Pipes necessary.....in	18	24	30	36	42	48	60	72

Lubricators are sent without Condenser Pipes and Angle Valve, unless otherwise ordered.

LUNKENHEIMER'S Double Sight-Feed Lubricator. FOR COMPOUND ENGINES.



DESCRIPTION.

- A—Oil Reservoir.
- B—Condensing Chamber.
- C—Oil Discharge Valves.
- D—Oil Regulating Valves.
- G—E—Brace-Stud and Locknut for supporting cup.
- H—Drain Valve.
- M—Water Valve.
- N—Filling Plug.
- O—Plugs for renewing Sight-Feed Glasses.
- P—Unions on discharge shanks for attaching.
- R—Equalizing Pipes.
- S—Union at steam connection.
- T—Oil Discharge Nozzles.
- V—Sight-Feed Glasses.
- W—Vents for blowing out Sight-Feed Glasses.
- X—Union Connection on Equalizing Pipes.

Fig. 484. Double Sight-Feed Lubricator.

THIS Lubricator, designed for Compound Engines, is fully warranted to meet the requirements, and special attention is called to its simplicity of construction and neat design. It is provided with equalizing tubes, thus variations in pressure are properly equalized, preventing "syphoning" of the oil. All cups have brace-stud and locknut at bottom end of oil reservoir to receive the strap or brace that secures the cup to its proper position on the engine; the brace-stud can also be provided on the back of oil reservoir, if so desired.

Cups are also furnished with three or more Sight-Feeds at Special Prices.

DIRECTIONS.

Attach the cup securely to a brace (by means of the brace-stud and locknut) in the most suitable position on the engine; then connect the top live steam connection and the oil delivery discharge ends.

TO OPERATE:—Close valves C, D and M and fill the reservoir with oil, then open valves C and allow sight-feed glasses to fill with water, then open valve M and regulate the oil drops at D. Before refilling the next time, drain the water from cup by means of valve H. In some cases it may be necessary to regulate discharge valves C, to insure best working. Broken glasses are easily replaced by taking off plugs (O).

PRICE LIST.

SIZE	1 Pint.	1½ Pint.	1 Quart.	½ Gallon.	1 Gallon.
Price, Nickel Plated	each 35 00	42 00	48 00	60 00	80 00

On all sizes the Unions on top Condenser Connection and Oil Delivery Connections have $\frac{3}{8}$ inch Female Pipe Thread.

LUNKENHEIMER'S

Sight-Feed Lubricator, The "Joker."

FOR STEAM PUMPS, TRACTION AND SMALL ENGINES.

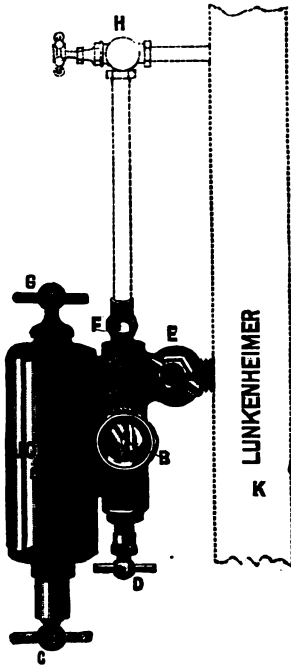


Fig. 485. "Joker."

DESCRIPTION.

- | | |
|----------------------------|------------------------------|
| A—Oil Reservoir. | E—Discharge Valve. |
| B—"Bull's Eye" Sight-Feed. | F—Union to Connect Condenser |
| C—Drain Valve. | Pipe and Valve. |
| D—Valve for Regulating | G—Filling Plug. |
| Flow of Oil. | K—Steam Pipe. |

THE "JOKER" SIGHT-FEED LUBRICATOR is a simple, compact and durable lubricator, cast entirely in one piece, and feeds oil drops up through water. This cup is provided with our improved "Bull's Eye" Sight-Feed, which does away with the usual annoyance of packing glass tubes. When a glass breaks, it is only necessary to replace the entire Bull's Eye by using an ordinary monkey wrench.

DIRECTIONS.

Attach this lubricator to steam pipe above the throttle, using $\frac{3}{8}$ inch iron pipe and angle valve on $\frac{1}{8}$ pint, and $\frac{1}{4}$ inch pipe on larger sizes for connecting union F to steam pipe.

TO FILL AND OPERATE.—Close valves D, E and H, drain cup at C, and fill (FULL) with oil. First open valve E slowly, allowing sight-feed glass B to fill with water. Then open valve H and wait a few moments for condensation, then regulate oil drops by valve D. This lubricator is provided with a vent-screw for blowing out sight-feed glass when necessary. To prevent freezing, valves D and C should be left open. The "Joker" on account of being cast in one piece, will work in exposed positions in cold weather.

PRICE LIST.

SIZE.....	pint	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Shank.....	pipe thread	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Price	each	3 50	4 00	5 00	6 00
Price, Plated.....	each	4 00	4 50	5 60	6 75
Joker Condenser Connections, Brass.....	each	60	60	70	80
Joker Condenser Connections, Plated.....	each	70	70	80	90
Extra "Bull's Eyes".....	each	30	30	30	30
Length of Condenser Pipes necessary.....	inches	15	15	18	24

Lubricators are sent without Condenser Pipes and Angle Valve, unless ordered otherwise.

LUNKENHEIMER'S "JUNIOR"

Single Connection Sight-Feed Lubricator.

FOR TRACTION ENGINES, AIR-BRAKE PUMPS, ETC.

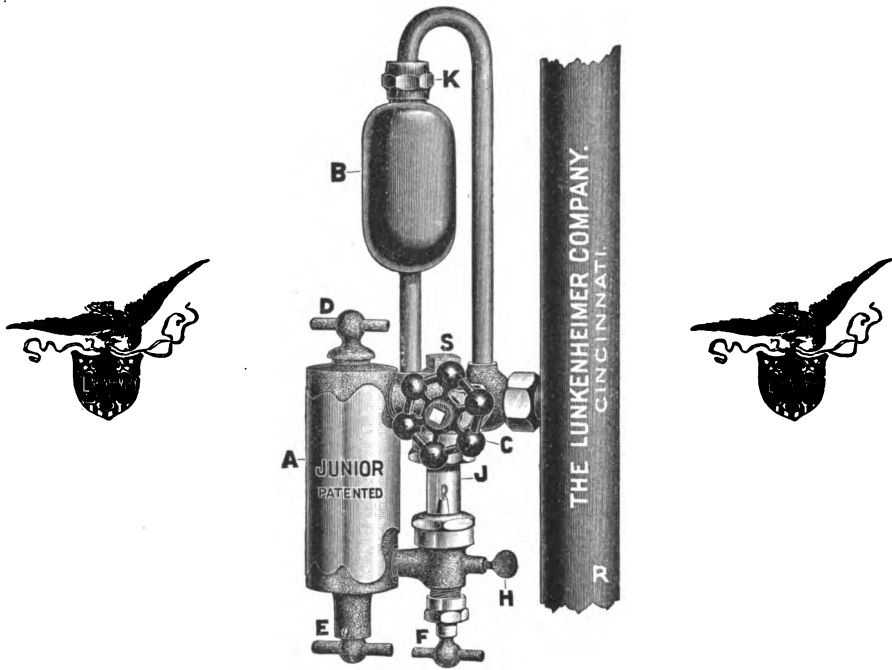


Fig. 486. "Junior."

DESCRIPTION.

A—Oil Reservoir.
B—Condensing Chamber.
C—Steam Valve.
D—Filling Plug.

E—Drain Valve.
F—Oil Regulating Valve.
H—Valve for draining Sight-Feed Glass.
S—Plug to replace or cleanse glass.

LUNKENHEIMER'S

“Junior” Lubricator.

THE “JUNIOR” has been designed to meet the demand for a SIMPLE, RELIABLE and INEXPENSIVE Single Connection Sight-feed Lubricator for small engines, Portables, Steam Pumps and Locomotive Air Brakes. It has but two valves—Steam Valve C and Oil Regulating Valve F. The sight-feed principle is that of “oil drops passing up through water in a glass tube.” It is partly finished and very ornamental.

The “Junior” must be attached to steam pipe, preferably on boiler side of throttle. The working of the cup is not affected by turning steam on or off. In attaching, see that hole in steam pipe is tapped straight, allowing shank to stand exactly horizontal.

Use good cylinder oil, and feed about four drops per minute. To cleanse glass tube remove plug S, using cotton waste on a piece of wood (not iron wire). To prevent freezing, the cup can be drained by closing Valve C and opening Drain Valve E. Keep stuffing boxes tight, as leakage prevents perfect working of cup.

The “Junior” is the only single connection sight-feed Lubricator thus far placed on the market, giving satisfaction, and is covered by patents. Many thousands are in use, and infringements and imitations are offered.

We warn users against these; insist on getting the genuine; they cost no more. Every cup is plainly marked with “Junior,” our name and patent stamp.

TO FILL AND OPERATE.

Close Valves C and F, drain cup at E, and fill (FULL) with oil. THEN OPEN VALVE C SLOWLY. When glass tube has filled with water regulate oil drops at F.

While cup is working leave Steam Valve C WIDE OPEN, unless pulsation interferes with oil drops, in which case regulate to suit. Valve H should only be opened when it becomes necessary to blow out or drain sight-feed glass.

All Lubricators are neatly packed in wooden boxes with sliding lids.

PRICE LIST.

SIZE.....pint	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	1
Shank .....pipe thread	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Partly Finished.....each	7 00	8 00	10 00	13 00	14 00
All Finished, (Brass Condensers and Pipes, and Wood Handles) ...each	8 50	10 00	12 00	15 00	16 00
All Finished and Nickel Plated (Brass Condensers and Pipes).....each	10 00	11 50	13 50	17 00	18 00

$\frac{1}{4}$ and $\frac{1}{2}$ Pint sizes are also made with $\frac{1}{2}$ inch Pipe Shank, but will be sent as above ($\frac{3}{8}$ inch) unless specially ordered.

NOTICE.—These Lubricators are also furnished with glass gauge, to indicate quantity of oil in reservoir, at an extra charge of 50 cents net, each, but will be sent without, unless specially ordered.

LUNKENHEIMER'S

"Major" Sight-Feed Lubricator.

SINGLE CONNECTION.



Fig. 487. "Major."

DESCRIPTION.

- A—Reservoir.
B—Steam Valve.
C—Oil Regulating Valve.
F—Drain Valve.
H—"Bull's Eye" Sight-Feed.



Fig. 488. "Bull's Eye."

THE "MAJOR" LUBRICATOR is a down drop cup of compact and simple construction, suitable for steam pumps and small engines, **and should be placed on the steam chest.** This cup is provided with our improved "Bull's Eye" Sight-Feed H, which does away with the usual annoyance of packing glass tubes. When a glass breaks, it is only necessary to replace the entire "Bull's Eye" by using an ordinary monkey wrench.

For price of extra "Bull's Eyes" see list below.

DIRECTIONS.

After cup is attached to steam chest, close steam valve B and oil regulating valve C, and fill the cup with oil. Then open steam valve B slowly and regulate flow of oil with C; but do not feed oil too fast, so as to give time for condensation. When cup requires refilling, close valves B and C, drain the cup at F and fill with oil, then proceed as before.

PRICE LIST.

Number.....	0	1	2	3	4	5	6
Diameter of Oil Reservoir.....inches	1¼	1½	1¾	2	2¼	2½	3
Shank.....pipe thread	¾	¾	½	½	½	½	¾
Brass.....each	3 50	4 00	5 00	6 00	8 00	10 00	12 00
All Finished and Nickel Plated.....each	4 20	5 00	6 00	7 25	9 50	12 00	14 00
Extra "Bull's Eyes".....each	30	30	30	30	30	30	30

LUNKENHEIMER'S "Banner" Sight Feed Lubricator.

FOR GAS ENGINES, AIR COMPRESSORS, ETC.



Fig. 489. "Banner."

DESCRIPTION.

- A—Oil Chamber.
- B—Stop Valve.
- C—Oil Regulating Valve.
- D—"Bull's Eye" Sight Feed.
- E—Filling Plug.



Fig. 488. "Bull's Eye."

THIS SIGHT-FEED LUBRICATOR is designed for gas engines, air compressors and steam valve spindles of water-works engines, and will also be found suitable for various other purposes, especially on account of its simplicity and compactness. It is provided with our improved "Bull's Eye" Sight-Feed which does away with the usual annoyance of packing glass tubes. When a glass breaks, it is only necessary to replace the broken "Bull's Eye" by using an ordinary monkey wrench. For price of extra "Bull's Eyes" see list below.

DIRECTIONS.

To fill and operate, close valves B and C, and fill with oil. Then open valve B wide and regulate flow of oil at C.

PRICE LIST.

Number.....	0	1	2	3	4	5	6
Diameter of Oil Chamber.....inches	1¼	1½	1¾	2	2¼	2½	3
Shank .....pipe thread	¾	¾	¾	¾	¾	¾	¾
Brass.....each	3 50	4 00	5 00	6 00	8 00	10 00	12 00
All Finished and Nickel Plated.....each	4 20	5 00	6 00	7 25	9 50	12 00	14 00
Extra "Bull's Eyes".....each	30	30	30	30	30	30	30

LUNKENHEIMER'S

Automatic Sight-Feed "Graphite" Lubricator.

FOR ENGINE CYLINDERS AND STEAM PUMPS.

THE tendency of the present time among boiler and engine builders is toward high pressures of steam, and oil for lubricating engines under high pressure will not answer, because it becomes volatilized immediately upon entering the cylinder, and so loses its efficiency as a lubricant. Powdered Graphite, however, is not affected by high pressure and answers perfectly as a substitute for oil, and it is well known by engineers generally, that pure Graphite is **far superior** to oil when properly applied to steam engine cylinders, but being a dry powder and not mixing well with oil, the difficulty has been, to properly supply it to the steam chests and cylinders of engines and pumps.

We have succeeded in constructing a lubricator, that not only feeds the Graphite automatically and continuously in desired quantities, but also does it visibly, by passing it through a sight-feed.



Fig. 490.
Graphite Lubricator.

The Lunkenheimer Patented Sight-Feed "Graphite" Lubricator should be attached on the steam chest with the upper steam connection above the throttle. On Corliss engines use two cups, placing one above each valve, and making the steam connections above the throttle.

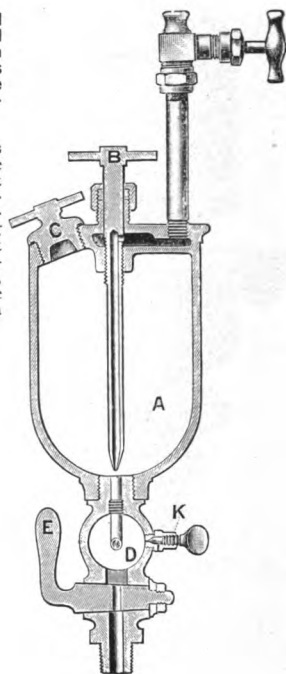
A Sight-feed oil Lubricator becomes entirely unnecessary when an engine is provided with a graphite cup, but in connection with the Graphite Lubricator, we recommend an oil pump for occasional use, especially while starting the engine. The illustration on next page shows a Corliss Engine provided with our Graphite Lubricators, Oil Pump and a "Lunken" Gate Valve with Automatic By-pass, which makes an Ideal Throttle.

DESCRIPTION.

- A—Graphite Reservoir.
- B—Graphite Regulating Valve.
- C—Filling Plug.
- D—Sight Feed Nozzle.
- E—Feed Regulating Valve.
- K—Drain Valve.
- H—"Bull's Eye" Sight Feed.



Fig. 488. "Bull's Eye."



Sectional.

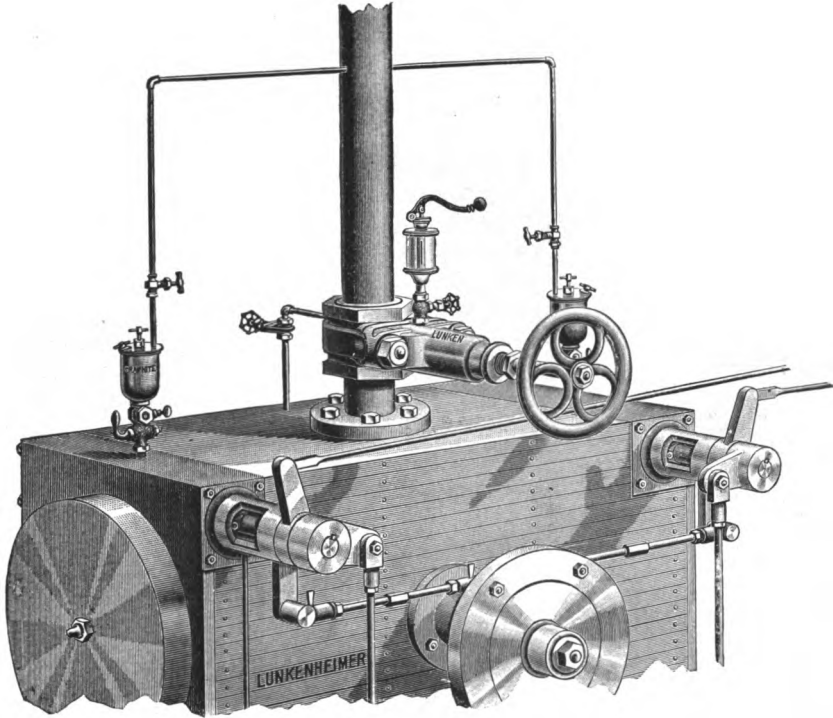
DIRECTIONS FOR OPERATING.

Close top steam valve and stop cock E, then take off filling plug C, and fill the reservoir with Graphite. After replacing filling plug, first open top steam valve, then open stop cock E, then regulate valve B so that the desired flow of Graphite is fed visibly out of the nozzle D in the sight-feed chamber.

If from any cause the "Bull's Eye" Glass should break, replace the entire "Bull's Eye" H by unscrewing same with a wrench; thus the usual annoyance of packing glass tubes is avoided. For price on extra "Bull's Eyes" see list on next page.

As Graphite is a very superior lubricant, and a very small quantity will last a great while, it is recommended that it be used very economically, as a continuous feeding of same is not necessary; thus the feed can occasionally be shut off. To insure best results we recommend the use of The Joseph Dixon Company's Cylinder Graphite.

LUNKENHEIMER'S
Automatic Sight-Feed "Graphite" Lubricator.



CUT SHOWING CORLISS ENGINE WITH GRAPHITE LUBRICATORS PLACED
OVER VALVES ON THE CYLINDER, GLASS BODY OIL PUMP
APPLIED, AND THE "LUNKEN" GATE VALVE WITH
BALANCED DISC AND RENEWABLE SEAT
USED AS A THROTTLE.

PRICE LIST—GRAPHITE LUBRICATORS.

Number.....	1	2	3
Capacity (Graphite).....ounces	3	5	8
Shank .....pipe thread	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Finished Brass.....each	10 00	12 00	16 00
Finished Brass, Nickel Plated.....each	11 00	14 00	18 00
Extra " Bull's Eyes "each	30	30	30

LUNKENHEIMER'S "Vulcan" Force-Feed Sight-Feed Lubricator.

FOR GAS ENGINES, AIR COMPRESSORS, ETC.

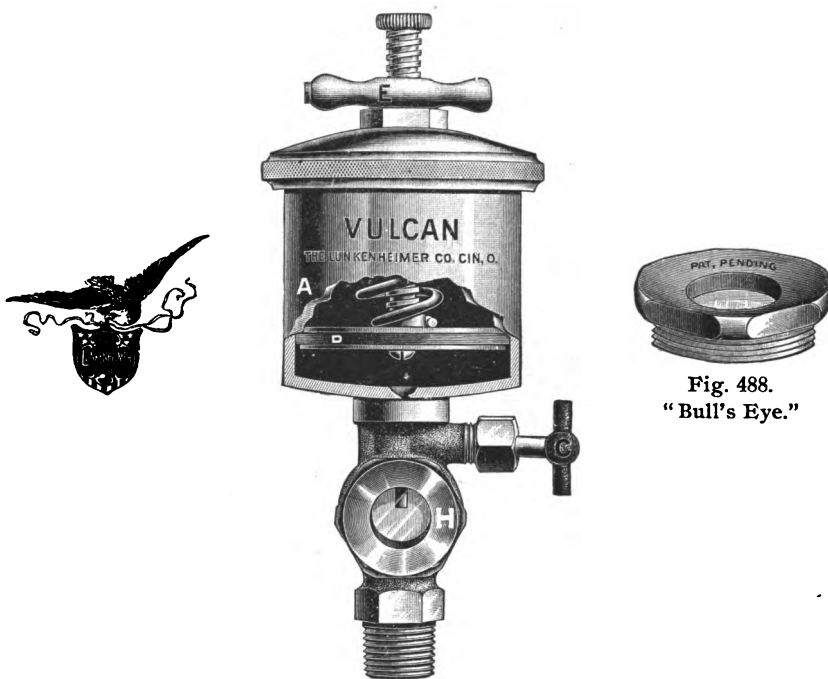


Fig. 491. "Vulcan."

DESCRIPTION.

- A—Oil Reservoir.
- H—"Bull's Eye" Sight-Feed.
- C—Oil Regulating Valve.
- D—Piston.
- E—Thumbnut for raising and regulating piston.

THIS Cup will be found an excellent Lubricator for feeding heavy oils when cold to Gas Engine and Air Compressor cylinders, as the spring actuated piston causes a "force-feed." **It has proved by tests to be a most perfect cup for the purpose intended, and is also recommended for use on bearings requiring heavy oil.** Do not feed Grease in this Cup.

LUNKENHEIMER'S

“Vulcan” Force-Feed Sight-Feed Lubricator.

DIRECTIONS.

TURN thumbnut E to the right until the plunger is drawn to top of cup; then unscrew cover and fill the cup with oil. Replace cover and adjust pressure on oil by screwing up thumbnut E to top of piston stem. Regulate the drops by turning valve C. This cup is provided with our improved “Bull’s Eye” Sight-feed, which does away with the usual annoyance of packing glass tubes. When a glass breaks, it is only necessary to replace the broken “Bull’s Eye” by using an ordinary monkey wrench.

For price of extra “Bull’s Eyes” see list below.

PRICE LIST.

Number.....	1	2	3	4
Outside Diameter of Cup.....inches	1 $\frac{1}{4}$	2 $\frac{1}{4}$	2 $\frac{3}{4}$	3 $\frac{1}{4}$
Shank .....pipe thread	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$
Brass.....each	5 00	6 00	8 00	10 00
All Finished and Nickel Plated.....each	6 00	7 25	9 50	12 00
Extra “Bull’s Eyes”.....each	30	30	30	30

LUNKENHEIMER'S

"Standard" Boiler Oil Injector.

FOR STATIONARY BOILERS.

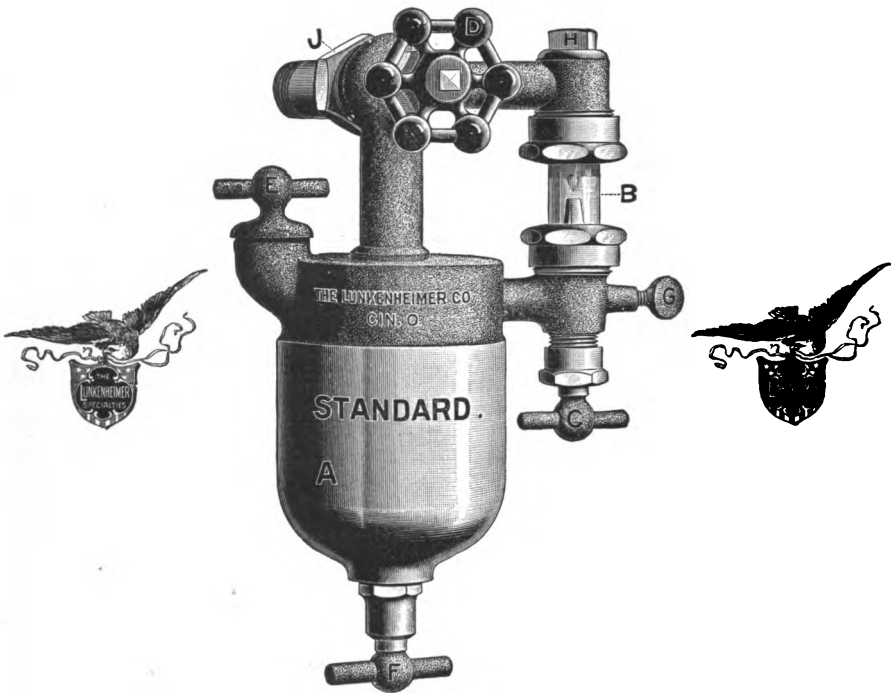


Fig. 492. "Standard."

DESCRIPTION.

- | | |
|--------------------------------------|---|
| A —Oil Reservoir. | E —Filling Plug. |
| B —Sight-Feed. | F —Drain Valve. |
| C —Oil Drop Regulating Valve. | G —Sight-Feed Drain Valve. |
| D —Stop Valve. | H —Plug to renew Sight-Feed Glass. |
| J —Union Connection. | |

LUNKENHEIMER'S

"Standard" Boiler Oil Injector.

FOR STATIONARY BOILERS.

THE "STANDARD" BOILER OIL INJECTOR is designed to be attached to the feed water pipe of steam boilers to feed boiler oil into the boiler, which effectually prevents the formation of scale; also preventing foaming, pitting and leaky joints. Many boiler explosions are caused by the weakening of the iron from strains due to unequal expansion. This unequal expansion is directly caused by the scale on the heating surface, also burning and blistering same. By accurate tests a scale $\frac{1}{32}$ of an inch requires 9 per cent more fuel; a scale $\frac{1}{16}$ of an inch 12 per cent; a scale $\frac{1}{8}$ of an inch 30 per cent, and a scale $\frac{1}{4}$ of an inch 60 per cent, and as the scale thickens the ratio increases. Thus it will be seen, that by keeping the boiler clean and free from scale, an enormous saving is effected. A GOOD QUALITY BOILER OIL WILL DO THE WORK, NO MATTER WHAT KIND OF WATER IS USED. LUNKENHEIMER'S "STANDARD" BOILER OIL INJECTOR has but one connection to the feed pipe; is simple and strong, and will be found a perfect machine for the purpose—visibly feeding drop by drop.

DIRECTIONS.

Attach the Injector to the feed water pipe between the pump and the boiler or heater, but not to a vertical pipe in which the water flows downward at the point of connection. Close valves D and C, and fill reservoir A with boiler oil; then open valve D and regulate feed of oil with valve C. When cup needs refilling, close valves D and C again and drain reservoir by opening valve F; then proceed as before.

If feeder is attached between pump and heater it will keep heater clean also.

PRICE LIST.

SIZE.....Capacity	$\frac{1}{2}$ Pint.	1 Pint.	1 Quart.	$\frac{1}{2}$ Gallon.	1 Gallon.
Price, Partly Finished.....each	7 50	10 00	13 50	16 50	19 50
Price, All Finished.....each	8 00	10 60	14 25		
Price, All Finished and Nickeled.....each	8 50	11 20	15 00		

Reservoirs above one quart are of cast iron, and have lugs on body for bolting to place; smaller sizes have a brace-stud and lock-nut at lower end of oil chamber for this purpose.

LUNKENHEIMER'S

"Emerald" Boiler Oil Injector.

FOR LOCOMOTIVE AND STATIONARY BOILERS.

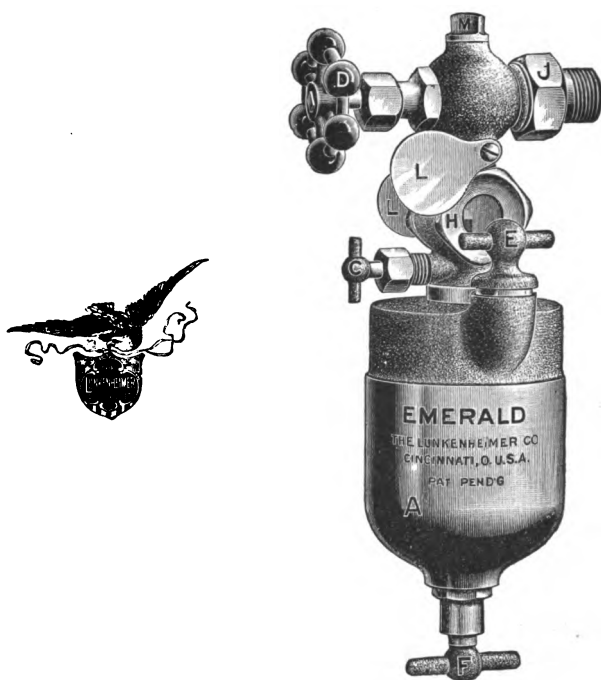


Fig. 493. "Emerald."



Fig. 488. "Bull's Eye."

DESCRIPTION.

- | | |
|--------------------------------------|------------------------------------|
| A —Oil Reservoir. | F —Drain Valve. |
| C —Oil Drop Regulating Valve. | H —"Bull's Eye" Sight-Feed. |
| D —Main Stop Valve. | J —Union Connection. |
| E —Filling Plug. | L —Shield over Sight-Feed. |

LUNKENHEIMER'S "Emerald" Boiler Oil Injector.

FOR LOCOMOTIVE AND STATIONARY BOILERS.

THE "EMERALD" BOILER OIL INJECTOR is specially designed for Locomotives, but is also suitable for Stationary and Traction Engine Boilers. This cup has our improved "Bull's Eye" Sight-Feed, which is compact, strong and safe and superior to the glass tube style of sight-feed for Locomotive use. The glass is stronger and this construction does away with the usual annoyance of packing glass tubes. When a glass breaks it is only necessary to replace the entire "Bull's Eye" by using an ordinary monkey wrench. For price of extra "Bull's Eyes" see list below. The sight-feed is also provided with our improved safety shields, which can be kept closed to protect against breakage of glasses and severe weather.

DIRECTIONS.

On Locomotives attach the cup within the cab to the Feed Pipe close to the Injector, on Stationary Boilers to the Feed Water Pipe close to the Pump, between Pump and Boiler or Heater, but in either case not to a pipe in which the water flows downward (at the point of connection). After cup is attached, close Main Stop Valve (D) and Oil Regulating Valve (C), take off Filling Plug E and fill the cup with boiler oil. Then open Valve D slowly and regulate flow of oil with C. When cup requires refilling, close Valves D and C, drain the water from cup at F; then again fill with boiler oil and proceed as before. The sight-feed glasses can be cleansed by blowing out the cup by means of drain valve (F).

PRICE LIST.

CAPACITY.....	½ Pt.	1 Pt.	1 Qt.	½ Gal.	1 Gal.
Iron-Brass Trimmings.....each				16 50	19 50
Brass-Partly Finished.....each	7 50	10 00	13 50	17 50	
Brass-All Finished.....each	8 00	10 60	14 25	18 50	
All Finished and Nickel Plated.....each	8 50	11 20	15 00	19 50	
Extra Bull's Eyes.....each	30	30	30	30	30

The ½ Pint size is best suited for Traction Engine use.

All of the brass cups have brace-stud and lock-nut on lower end of reservoir; the iron body cups lugs on back of reservoir, to enable being securely braced or bolted to place.

LUNKENHEIMER'S "Independent" Sight-Feed.

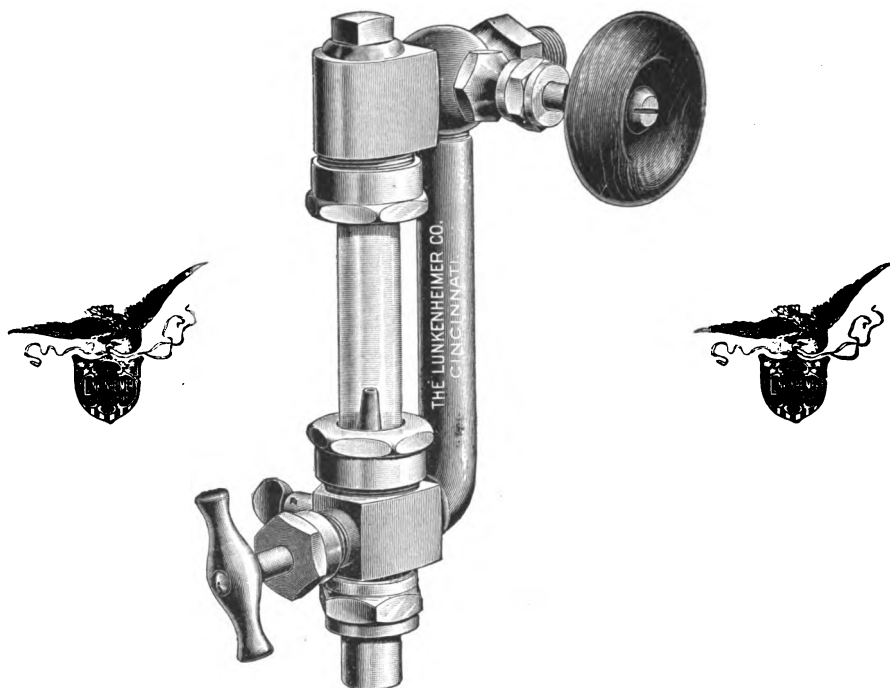


Fig. 494.

IN large steam plants where several Engines and Steam Pumps are placed in close proximity to each other, it is sometimes desired to supply oil for all from one large oil tank, so as to do away with separate lubricators. In such cases Lunkenheimers' Independent Sight-Feed can be used. Shank threaded $\frac{3}{8}$ inch pipe and union connection for $\frac{1}{4}$ inch pipe.

PRICE LIST.

Finished Brass.....each, 6 00

Nickel Plated.....each, 7 00

LUNKENHEIMER'S Glass Body Oil Pump.

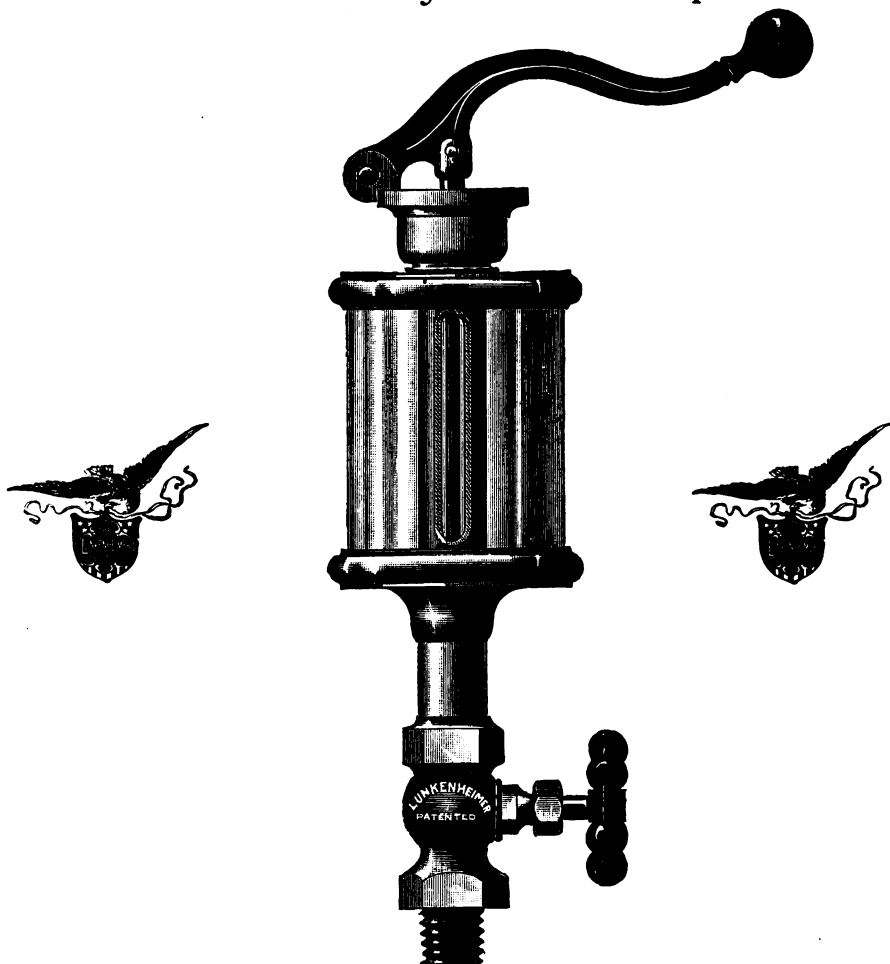


Fig. 495.

THE LUNKENHEIMER GLASS BODY OIL PUMP is easily filled and operated, and is intended to be used in connection with Sight-Feed Lubricators on Stationary Engines. No large engine should be without a cup of this kind as an auxiliary to the Sight-Feed Lubricator.

PRICE LIST.

Number.....	1	2
Outside Diameter of Glass.....inches	1 3/4	3
Shank.....pipe thread	3/4	1/2
Capacity.....pint	1/2	1
Brass.....each	7 50	10 00
Nickel Plated.....each	8 00	11 00
Extra Glasses.....each	20	60
Extra Cork Washers.....per dozen	36	60

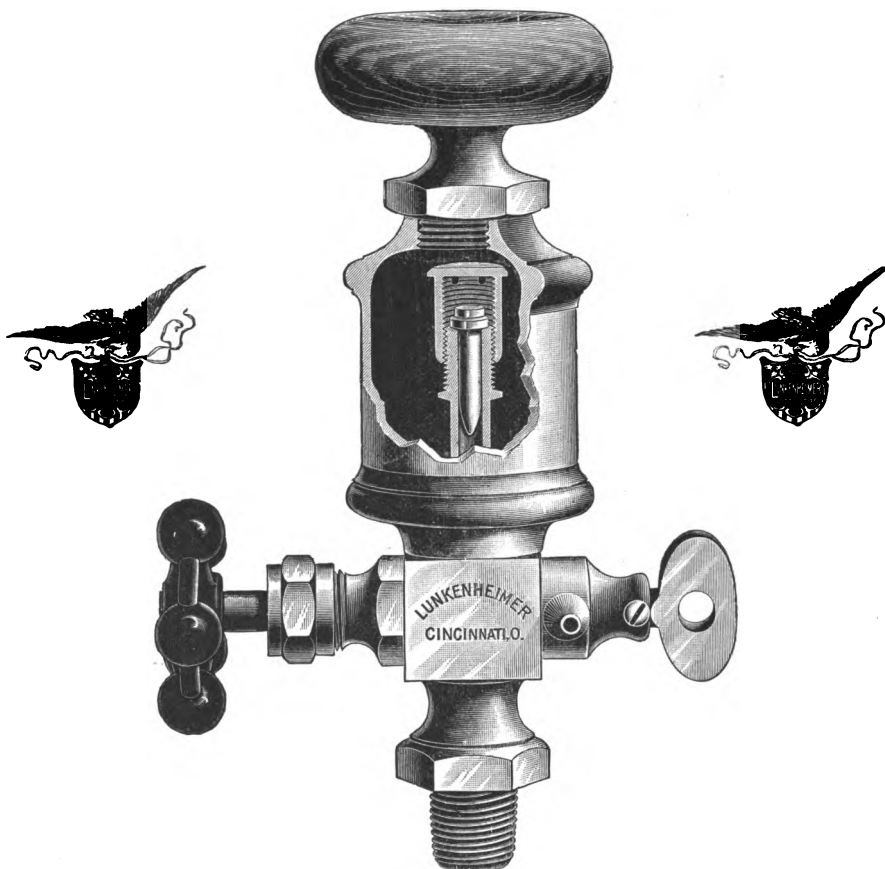
LUNKENHEIMER'S
Automatic Needle Valve Oil Feeder.

Fig. 496.

LUNKENHEIMER'S AUTOMATIC NEEDLE VALVE OIL FEEDER is intended for SLIDE VALVE Engines only, works automatically by pulsation, and must be placed on the steam chest. The stop valve must always be left open except when filling cup with oil. Do not drain off the water until ready to recharge the cup. The Lubricator stops feeding when the engine stops, and is about properly adjusted as shipped. To regulate the feed, screw yoke up or down, thereby increasing or decreasing the lift of needle. The greater the lift of the needle the more oil is fed; the needle works up and down like a check valve while the engine is in motion.

PRICE LIST.

Diameter.....	inches	1½	2	2½	3
Capacity.....	pint	¾	½	¾	1
Shank.....	Pipe Thread, inch	¾	½	½	¾
Plain Top.....	each	4 70	6 20	7 70	9 00
Cross Top, with Glass Gauge.....	each			11 30	14 50

A card with full directions for using the Oil Feeder is attached to every cup.

LUNKENHEIMER'S Oil Feeder with Cock and Tube.

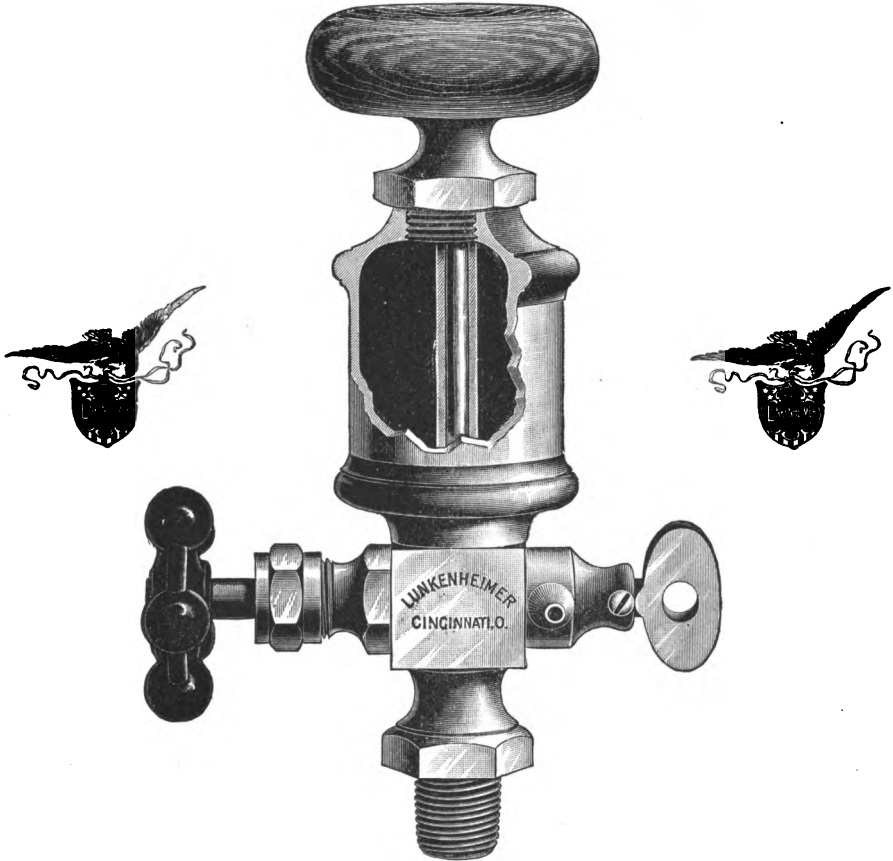


Fig. 497.

OUR new style Plain Engine Lubricator with Cock and Tube is constructed on the same general principles as the old style, but will be found far superior in quality, design and efficiency. The Cup is heavier, stronger and better proportioned, and instead of an ordinary air cock screwed into the side of the oil chamber, it has a well made compression style of drain valve with drip nozzle, which is not liable to leak; it is located opposite the steam valve instead of on the oil chamber. As is well known cups of this character work automatically by condensation, and although the flow of oil from the cup cannot be accurately regulated, still the feed is continuous and requires refilling but once per day. It is far superior to a Common Plain Engine Lubricator. Where a strong and simple automatic lubricator without sight-feed is wanted, we recommend this cup. It will be found very convenient for small engines and steam pumps and should be placed on steam chest.

PRICE LIST.

Number.....	7	8	9	10
Diameter of Cup.....inches	1¾	2	2½	3
Shank.....Pipe Thread, inch	¾	½	½	¾
Price.....each	3 00	4 50	6 00	7 50

LUNKENHEIMER'S

Plain Engine Lubricator.

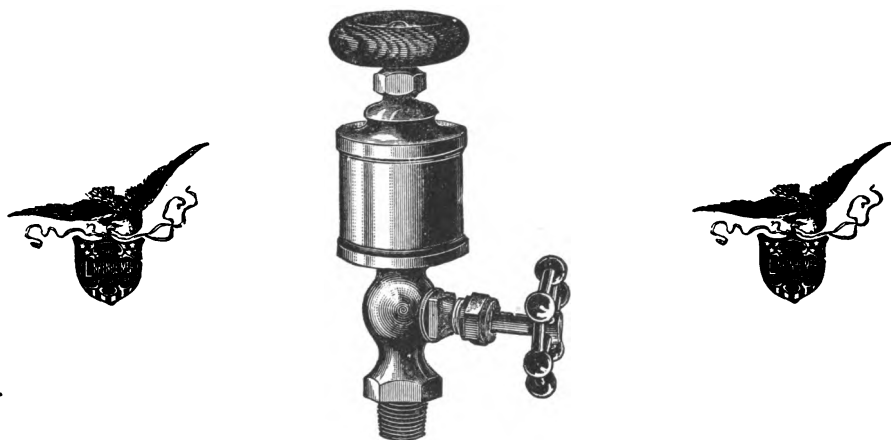


Fig. 498.

PRICE LIST.

Number	00	0	1	2	3	4	5	6	7	8
Diameter.....inches	1	1¼	1½	1¾	2	2¼	2½	3	3½	4
Pipe Thread.....inch	¾	¾	¾	½	½	½	½	¾	¾	¾
Plain .....each	2 00	2 20	2 40	2 60	2 90	3 25	3 75	4 75	7 00	10 00
Plain, with Cock and Tube.....each	3 00	3 20	3 40	3 60	3 90	4 25	4 75	5 75	8 00	11 00

LUNKENHEIMER'S Patent Drip Valves, Wiper Cups, Drip Troughs, Etc. OILING DEVICES FOR HIGH SPEED ENGINES.

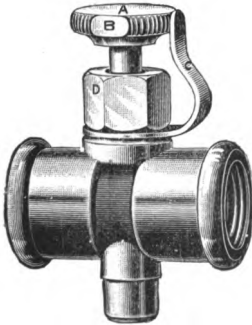


Fig. 499.
Straight Drip Valve.

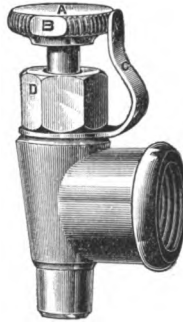


Fig. 500.
Angle Drip Valve.

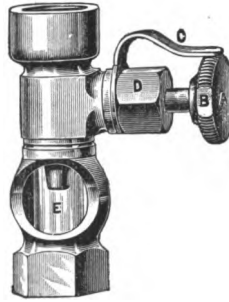


Fig. 501.
Straight Sight-Feed Valve.

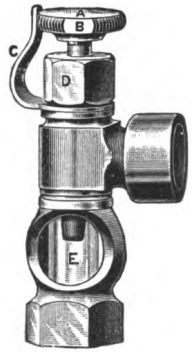


Fig. 502.
Angle Sight-Feed Valve.

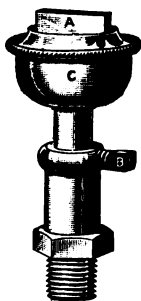


Fig. 503.
Adjustable Wiper
Cup for Wick.

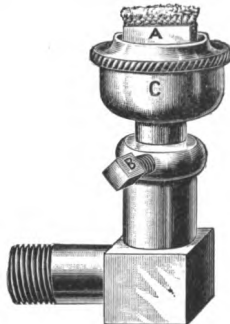


Fig. 504.
Adjustable Wiper Cup
with Elbow Shank.



Fig. 505.
Plain Wiper Cup.



Fig. 506.
Oil Cup Wiper Tip.



Fig. 507.
Drip Trough.

PRICE LIST.

Fig. 499	Straight Drip Valve, each.....	Brass, 1 50	Nickel Plated, 1 75
Fig. 500.	Angle Drip Valve, each.....	Brass, 1 25	Nickel Plated, 1 50
Fig. 501.	Straight Sight-Feed Valve, each.....	Brass, 2 00	Nickel Plated, 2 25
Fig. 502.	Angle Sight-Feed Valve, each.....	Brass, 2 00	Nickel Plated, 2 25
Fig. 503.	Adjustable Wiper Cup, 1/4 or 3/8 Inch Pipe, each.....	Brass, 2 50	Nickel Plated, 3 00
Fig. 504.	Adjustable Wiper Cup, Elbow Shank, 1/4 or 3/8 Inch Pipe, each.....	Brass, 3 00	Nickel Plated, 3 50
Fig. 506.	Wiper Tips, each.....	3/8 In. Brass, 40	Nickel Plated, 50 1/2 in. Brass, 50 Nickel Plated, 60

Straight and Angle Drip and Sight-Feed Valves are tapped 1/4 or 3/8 inch Pipe Thread, to be used in connection with 1/4 or 3/8 inch Iron Pipe size Brass Tubing. In ordering above mention size of Pipe Thread wanted.

Fig. 505. Plain Wiper Cup.				Fig. 507. Drip Troughs.				
Pipe Th'd	O. Diam.	Brass	Nickel Pl.	Length	Pipe Th'd	Rough	Finished	Nick. Pl.
1/4	1 1/4	1 00	1 20	3 inches	1/4	75	1 00	1 25
3/8	1 1/2	1 50	1 75	5 "	3/8	1 00	1 50	2 00
1/2	2	2 00	2 40	7 "	1/2	1 50	2 00	2 75
				9 "	3/4	2 00	2 75	3 50

Brass Fittings, Elbows, Tees and special Oiling Devices, to order. For Improved Oil Gauges for Dynamos, etc., see Page 98.

LUNKENHEIMER'S

Adjustable Centrifugal Crank Pin Oiling Devices

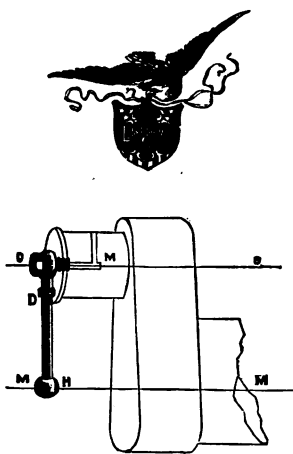


Fig. 508. Plain Oiler Arm.

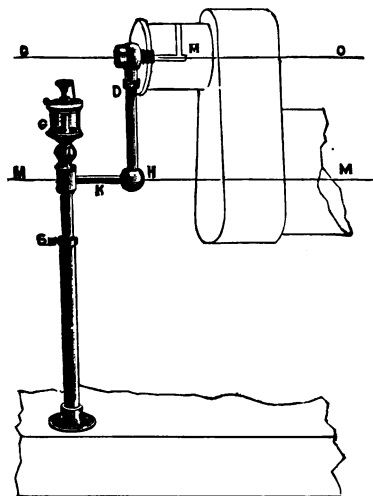


Fig. 509. Oiler Arm Complete, with Floor Stand and Oil Cup.

THE PLAIN OILER ARM, FIG. 508, is intended to be used as an auxiliary to the crank pin cup, to afford an extra and direct means of lubricating the crank pin WHILE THE ENGINE IS IN MOTION, by squirting oil with an oil can through hole in ball (H). In ordering these give stroke of engine.

THE COMPLETE DEVICE WITH ADJUSTABLE OIL CUP STAND, FIG. 509, gives direct continuous lubrication to the crank pin from the oil cup on the floor stand. In ordering these give stroke of engine and distance from center of crank shaft to floor.

DIRECTIONS FOR APPLYING.

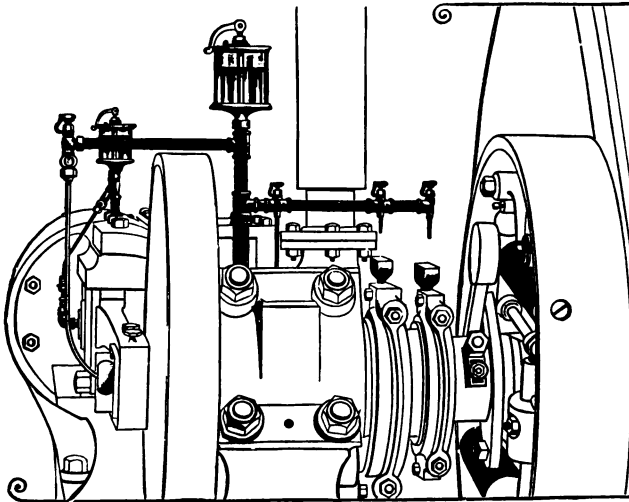
Drill a hole lengthwise in crank pin and tap same to accommodate the shank of oiler bolt (O) which is $\frac{3}{8}$ pipe thread on Nos. 1 and 2, and $\frac{1}{2}$ pipe thread on No. 3 size, unless otherwise specified. Drill a smaller hole (M) to connect to bearing; adjust the tubing at (D) to allow the ball (H) to revolve in line with the axis of shaft (M), then screw bolt (O) down tightly to keep oiler arm in position. To attach oiler stand fasten floor plate and adjust oiler stand, previously inserting connecting tube (K) in the hole of ball (H).

PRICE LIST.

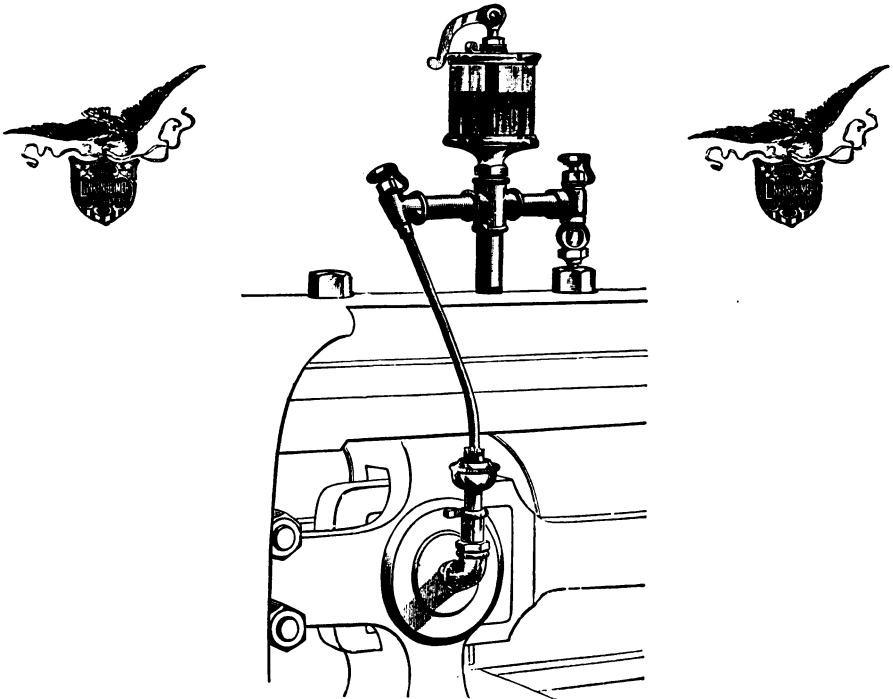
Number	1	2	3
Length of stroke.....	Up to 16 inches	Up to 30 inches	Up to 60 inches
Thread on bolt (O).....pipe thread	$\frac{3}{8}$ inch	$\frac{3}{8}$ inch	$\frac{1}{2}$ inch
Plain Oiler Arm, Brass.....each	6 00	7 00	9 00
Plain Oiler Arm, Nickel Plated.....each	7 00	8 00	11 00
Complete, Brass.....	15 00	17 00	21 00
Complete, Nickel Plated.....	18 00	20 50	25 00

The Oiler Arm Complete is provided with an adjustable sight-feed oil cup of proportionate size.

Lunkenheimer's Improved Oiling Devices. FOR HIGH SPEED AND MARINE ENGINES.



DEVICE FOR OILING CRANK PIN, PILLOW BLOCK AND ECCENTRICS FROM ONE OIL CUP.



CROSS HEAD AND SLIDE OILING DEVICE.

These Drip and Sight-Feed Valves (Figures 500 and 502), in connection with small brass distributing pipes, are also especially suitable for lubricating Marine Engines. In ordering, always send sketch and dimensions of fittings required.

LUNKENHEIMER'S "Ideal" Automatic Grease Cup. FOR ENGINE CRANK PINS, JOURNALS, ETC.

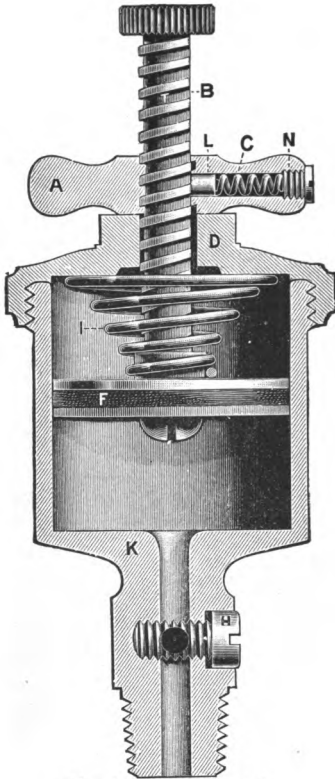


Fig. 510. Sectional.



Exterior.

THE "IDEAL" is a first-class cast brass highly finished automatic compression cup, suitable for Engine Bearings, Journals, etc. It is provided with a leather packed plunger, (insuring a tight joint and smooth working) which is so constructed that it is easily raised when cup requires recharging with grease. The spring and plunger are conveniently controlled by thumb-nut (A), which is provided with an automatic lock arrangement to prevent its jarring from position on stem. The hole through the shank can be regulated to suit the grease used, by means of regulating screw (H). As a high grade cup of superior design and perfect regulation of feed, the "IDEAL" has no equal.

DIRECTIONS.

Turn thumb-nut (A) to the right until plunger is drawn to top of cup; then unscrew cover and fill the cup with grease. Replace cover and adjust pressure on grease by screwing up thumb-nut (A) to top of stem (T), thereby allowing plunger to compress and feed the grease.

The rate of feed must be regulated by set-screw (H), which has a hole through it in line with the slot; thus is regulated like a stop cock.

If it is desired to stop the flow of grease, turn thumb-nut (A) down to cover, thereby taking tension off spring.

PRICE LIST.

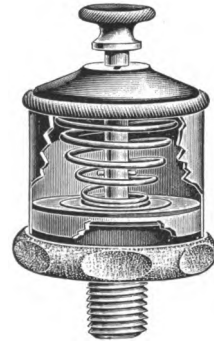
Number	00	0	1	2	3	4
Inside Diameter.....inches	1	1 1/4	1 1/2	2	2 1/2	3
Pipe Thread.....inch	1/8	1/4	3/8	1/2	5/8	3/4
Capacity (Grease).....ounces	1/2	1	1 1/2	3	4 1/2	6 1/2
Finished, Brass.....each	1 60	2 00	2 50	3 20	4 30	6 00
Nickel Plated.....each	1 75	2 25	2 80	3 60	5 00	6 75

LUNKENHEIMER'S "Jewel" Automatic Grease Cup.

FOR BEARINGS, SHAFTING, LOOSE PULLEYS, ETC.



Fig. 511.



Sectional.

THE "JEWEL" GREASE CUP we have designed to meet the demand for a simple and inexpensive Automatic Cup, and to take the place of Iron Cups. The Base is of cast brass, while the Top is of Tubing and spun brass. These cups will be found far superior to Iron Cups although the price is the same. They are of brass throughout, provided with leather packed Plunger, are of neat design, well made, and light in weight.

DIRECTIONS.

When Cup is empty and Plunger is at bottom of Cup, unscrew and take off the Reservoir, then lift the Plunger to top of Reservoir and lock it in this position. This is done by lifting the Plunger Rod until the Pin (which passes through it at its lower end) comes up through the lid, then turn the Plunger Rod slightly. Then fill the Reservoir with grease and after screwing it back to its Base, release the spring lock, (so as to put the pressure on the grease) by turning the Plunger Rod back again until the Pin passes through the slots.

PRICE LIST.

Number.....	00	0	1	2	3	4
Inside Diameter.....inches	1	1¼	1½	2	2½	3
Pipe Thread.....inch	½	¾	¾	¾	½	½
Capacity, Grease.....ounces	½	1	1½	3	4½	6½
Brass.....each	80	1 00	1 30	1 70	2 30	3 20

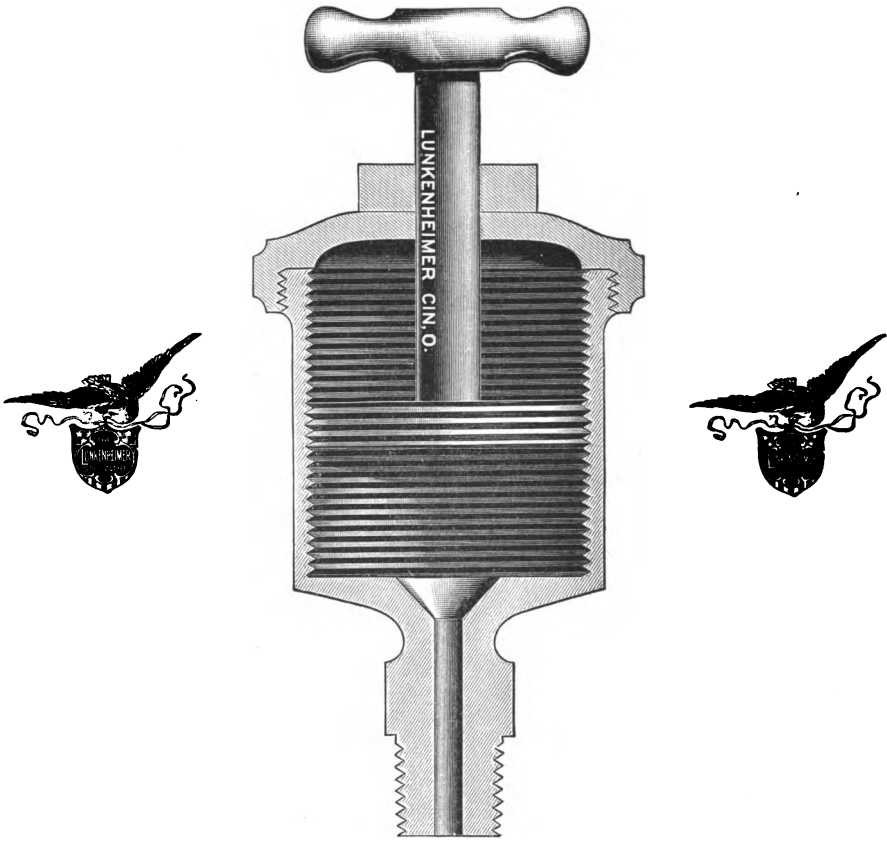
LUNKENHEIMER'S
Screw Feed "Marine" Grease Cup.

Fig. 512.

This Cup is more particularly designed for Marine Engines, but will also be found suitable for many other purposes where a screw feed is desired, or it is necessary to force the Grease some distance to the parts to be lubricated.

PRICE LIST.

Number	00	0	1	2	3	4
Inside Diameter.....inches	1	1¼	1½	2	2½	3
Shank.....Pipe Thread	½	¾	¾	¾	¾	¾
Capacity (Grease).....ounces	½	1	1½	3	4½	6½
Price, Brass.....each	1 00	1 20	1 60	2 00	2 80	4 00
Price, Nickel Plated.....each	1 20	1 45	1 90	2 40	3 40	4 75

LUNKENHEIMER'S

"Tiger" Plain Brass Grease Cup.

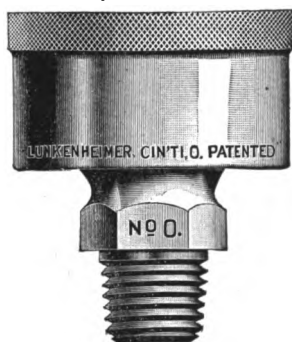
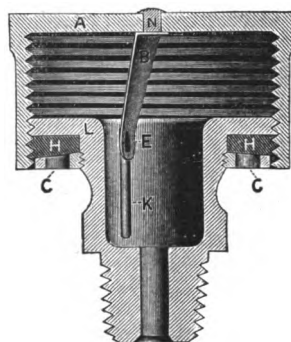


Fig. 513.



Sectional.

THE LUNKENHEIMER "TIGER" PLAIN GREASE CUP is a cast brass cup, well adapted for jarring-machinery; is unsurpassed where a simple, compact and efficient plain cup is wanted. By screwing down cap (A) the lubricant is forced to the bearing. The leather washer (H) prevents the grease from leaking out of cup, and can be easily replaced when worn out; spring lock arrangement (B) the projection (E) of which engages (K) at each turn, prevents the cap from jarring off, also cuts and loosens the grease.

Always keep leather washer (H) well expanded against the thread by screwing up plate (C). This plate can easily be tightened or unscrewed by using a pointed tool, inserting it in one of the holes in plate and striking it with a hammer.

These cups are furnished in three styles, viz: FINISHED BRASS, NICKEL PLATED and ROUGH—(see price list below).

When no style is mentioned, orders will be filled with FINISHED BRASS, same as shown in cut.

PRICE LIST.

Number.....	00	0	1	2	3	4
Inside Diameter.....inches	1	1 1/4	1 1/2	2	2 1/2	3
Pipe Thread.....inch	1/8	1/4	3/8	1/2	5/8	3/4
Capacity, Grease.....ounces	1/4	3/8	1	2	3 1/2	5
Finished, Brass.....each	70	90	1 15	1 50	2 15	2 90
Finished, Nickel.....each	82	1 06	1 36	1 80	2 60	3 40
Rough.....each	56	74	96	1 28	1 76	2 30

LUNKENHEIMER'S

"Ohio" Spun-Top Grease Cup.



Fig. 514. Full Size, No. 6.

THIS simple and inexpensive Grease Cup will be found equal to more expensive plain cups for various purposes. The top is of spun brass, and, although being very light in weight (so as not to jar off), is quite strong; THE BASE IS MADE OF CAST BRASS.

PRICE LIST.

Number.....	6	7	8	9
Outside Diameter.....inches	1½	2	2¾	2¾
Pipe Thread.....inch	¾	¾	¾	¾
Capacity (Grease).....ounces	¾	1½	3½	5
Price.....each	55	70	90	1 20

LUNKENHEIMER'S "Pioneer" Slide Top Glass Oil Cup.

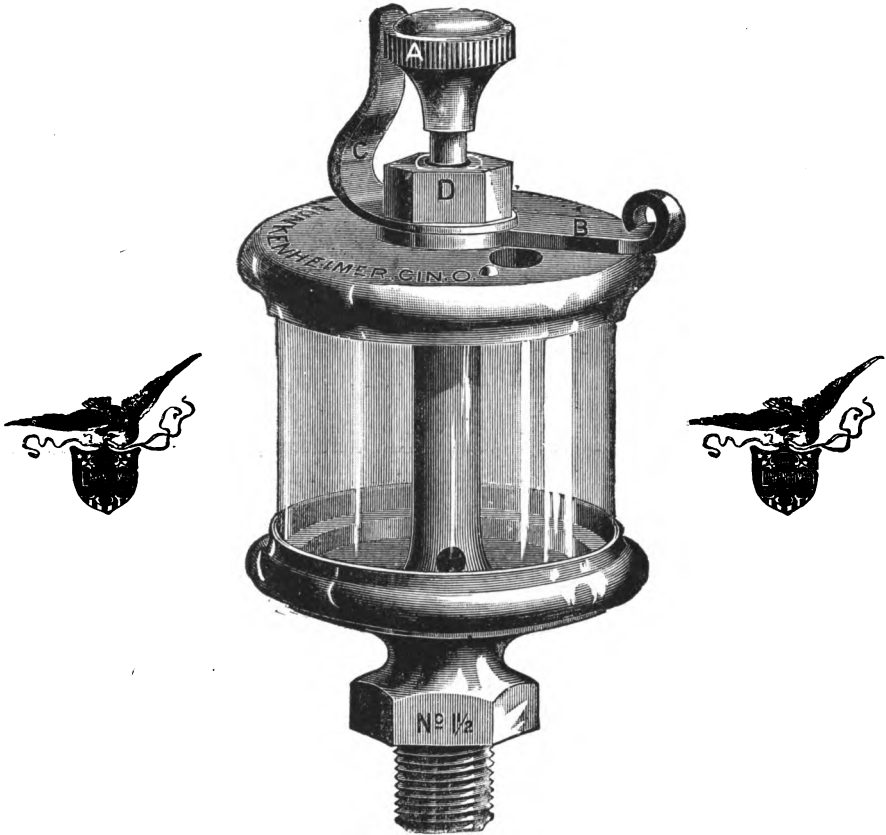


Fig. 515. Full Size, No. 1½.

THE PIONEER OIL CUPS have become a "Universal Standard" being by far the most perfect and finest oilers of their class and are suitable for all Engine and Machinery Bearings. They are constructed of cast brass (not spun brass), are highly finished and very ornamental. They are the only Glass Oil Cups in the market that are not affected by jarring machinery—they will not shake apart nor the feed become unset. This feature recommends them for Traction Engines, Steam Rollers, etc. They are easily filled and regulated.

PRICE LIST.

Number	000	00	0	1	1½	2	3	4	5	6
Outside Diameter of Glass.....inches	1	1½	1¾	1½	1¾	2	2¼	2½	3	3½
Height of Glass.....inches	¾	1	1½	1¾	1¾	1¾	2½	2¾	3	4
Capacity.....ounces	¼	½	¾	1	1½	2½	4	5	10	18
Pipe Thread.....inch	¼	½	¾	¾	¾	¾	¾	¾	¾	¾
Finished Brass.....each	70	75	80	1 00	1 25	1 50	1 90	2 40	3 10	4 00
Nickel Plated.....each	80	85	95	1 20	1 50	1 75	2 20	2 75	3 50	4 50
Extra Glasses.....each	05	06	08	10	10	12	15	25	35	65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of Cup as stamped on same.

LUNKENHEIMER'S "Victor" Index Glass Oil Cup.

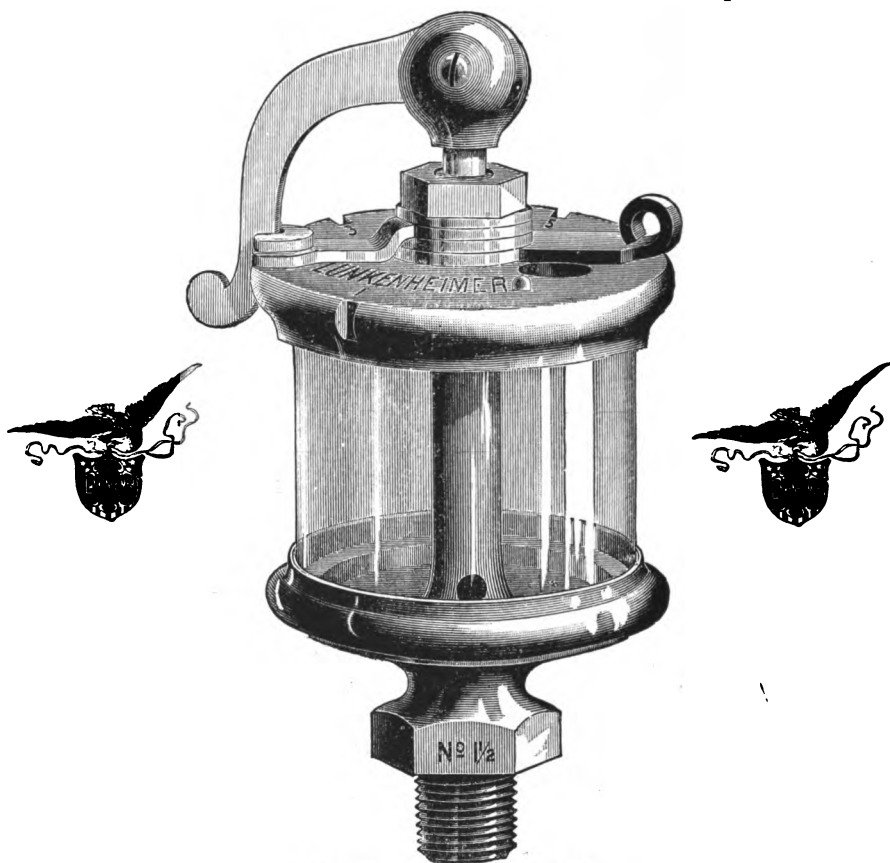


Fig. 516. Full Size, No. 1½.

THE LUNKENHEIMER "VICTOR" INDEX GLASS OIL CUP is provided with a simple "index" device for regulating the feed of oil, and has an indicator arm pivoted on the stem and turning on the lid to mark the notch giving the desired feed. The feed can be instantly turned off, and on again by replacing the lever in the notch of the indicator arm. When the index arm is closed the lever can be left to stand up out of the notch, thus acting as an indicator, to show from a distance that the feed is shut off. This cup is exactly like the "Crown" on page 90, but without sight-feed.

PRICE LIST.

Number.....	0	1	1½	2	3	4	5	6
Outside Diameter of Glass..... inches	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass..... inches	1½	1¾	1¾	1¾	2¼	2¾	3	4
Capacity..... ounces	¾	1	1½	2½	4	5	10	18
Pipe Thread..... inch	¼	¼	¼	¾	¾	¾	¾	¾
Finished Brass..... each	1 00	1 20	1 45	1 75	2 15	2 70	3 40	4 30
Nickel Plated..... each	1 15	1 40	1 70	2 00	2 45	3 05	3 80	4 80
Extra Glasses..... each	08	10	10	12	15	25	35	65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup as stamped on same.

Lunkenheimer's "Royal" Sight-Feed Glass Oil Cup.

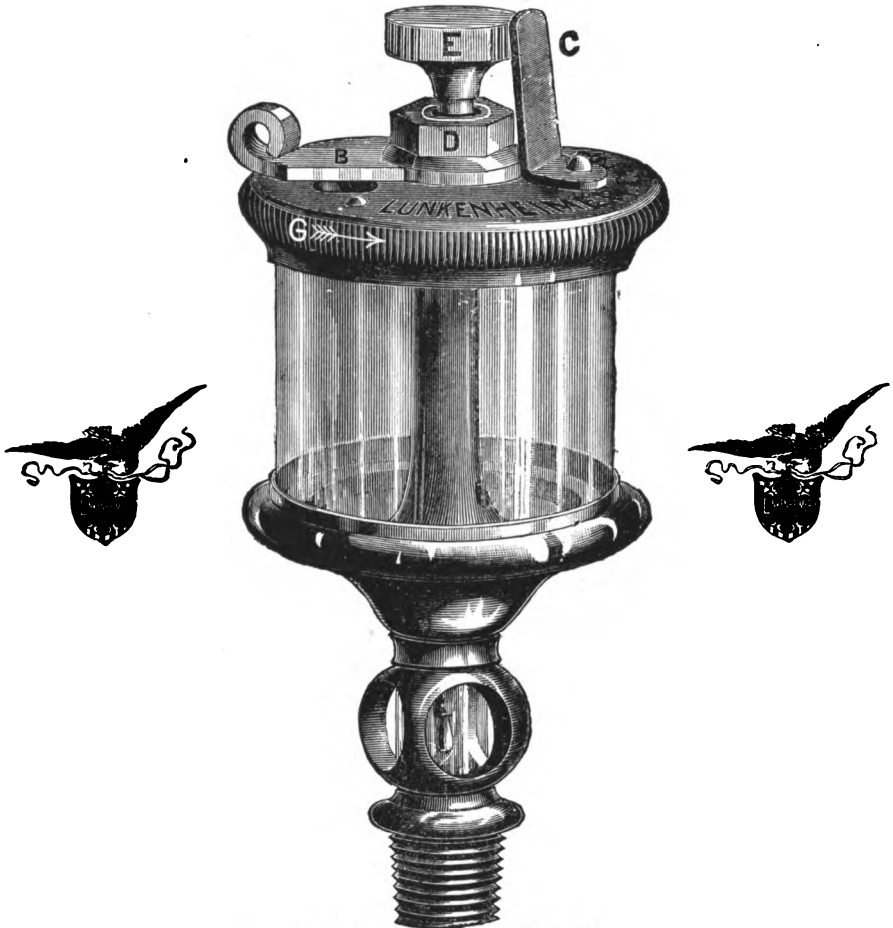


Fig. 517. Full Size, No. 1½.

THE "ROYAL," SIGHT-FEED GLASS OIL CUP will be found an excellent cup for Engine and Dynamo use; it is simple and practical, and so constructed, that when the desired feed is once set it can be stopped and started at will without resetting, the spring acting as a lock and indicator when engaging at (E).

DIRECTIONS TO SET FEED.—Regulate the feed by turning the milled cover, so that when the flattened side of thumb-nut engages the spring the desired feed is obtained. When the desired feed is once established, it can instantly be shut off or put on by turning the milled thumb-nut (E); *i. e.*, to the right, feed off; to the left, feed on.

PRICE LIST.

Number.....	00	0	1	1½	2	3	4	5	6
Outside Diameter of Glass.....inches	1⅛	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass.....inches	1	1½	1¾	1¾	1¾	2½	2¾	3	4
Capacity.....ounces	½	¾	1	1½	2½	4	5	10	18
Pipe Thread.....inch	½	½	¾	¾	¾	¾	¾	¾	¾
Finished Brass.....each	1 10	1 25	1 50	1 75	2 10	2 55	3 15	3 90	4 80
Nickel Plated.....each	1 20	1 40	1 70	2 00	2 35	2 85	3 50	4 30	5 30
Extra Glasses.....each	05	08	10	10	12	15	25	35	65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup as stamped on same.

Lunkenheimer's "Crown" Index Sight-Feed Glass Oil Cup.

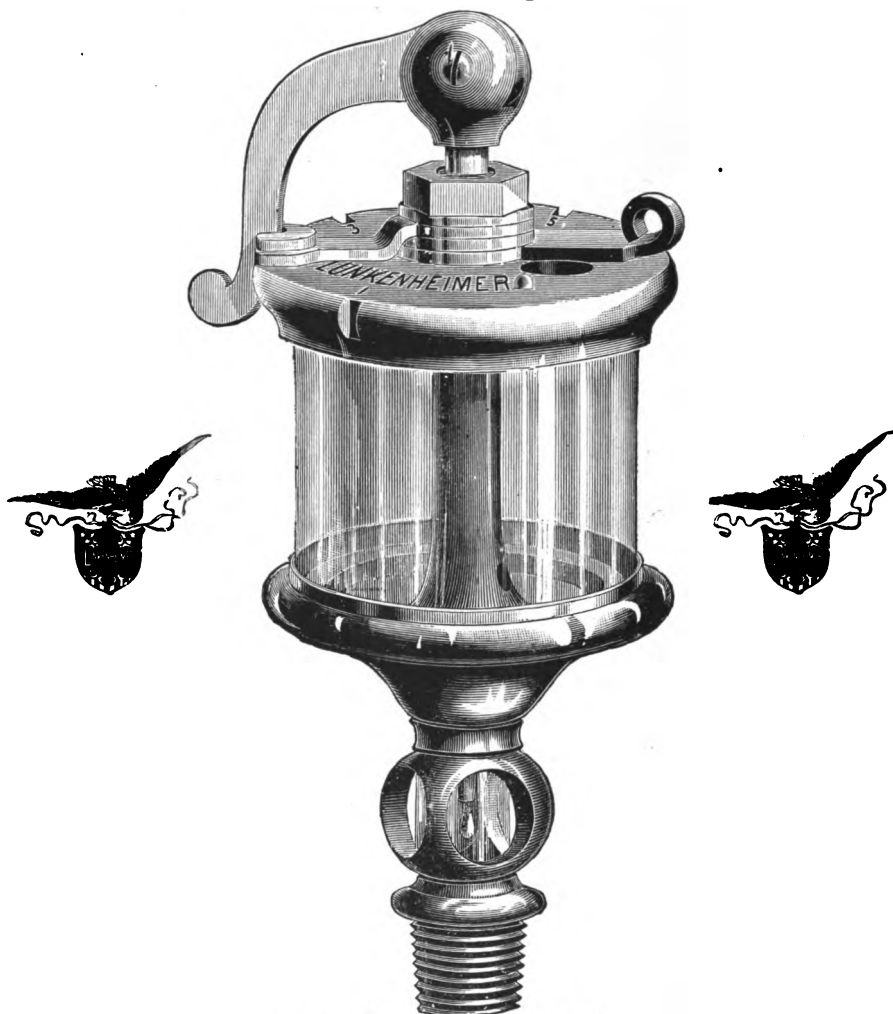


Fig. 518. Full Size, No. 1½.

THE LUNKENHEIMER "CROWN" INDEX SIGHT-FEED GLASS OIL CUP is of first-class quality throughout, very ornamental in appearance and made of cast brass. It has an "index" device for regulating the feed of oil, and an indicator arm turning on the lid to mark the notch giving the desired feed. The feed can be instantly turned off and on again by replacing the index lever in the notch of the indicator arm. When the index arm is closed, the lever can be left to stand up out of the notch, thus acting as an indicator, to show from a distance that the feed is shut off. It fulfills all the requirements for dynamo and engine use, and we recommend it where a first-class substantial cup is wanted.

PRICE LIST.

Number.....	0	1	1½	2	3	4	5	6
Outside Diameter of Glass.....inches	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass.....inches	1½	1¾	1¾	1¾	2½	2¾	3	4
Capacity.....ounces	¾	1	1½	2½	4	5	10	18
Pipe Thread.....inch	¾	¾	¾	¾	¾	¾	¾	¾
Finished Brass.....each	1 25	1 50	1 75	2 10	2 55	3 15	3 90	4 80
Nickel Plated.....each	1 40	1 70	2 00	2 35	2 85	3 50	4 30	5 30
Extra Glasses.....each	08	10	10	12	15	25	35	65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup, as stamped on same.

LUNKENHEIMER'S "Yankee" Slide Top Glass Oil Cup.

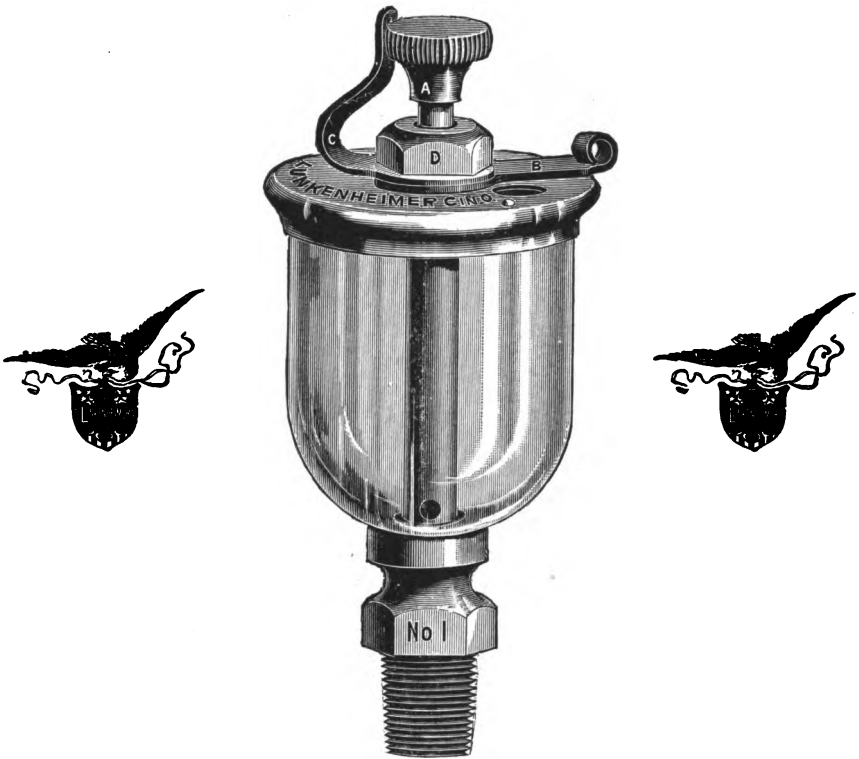


Fig 519. Full Size, No. 1.

THIS cup on account of being simple, efficient and low priced, is admirably adapted as a shafting cup, but is also suitable for general machinery and engine bearings. It has the same filling and feed regulating arrangement as "Pioneer" Cup on Page 87.

PRICE LIST.

Number.....	00	0	1	1½	2	3	4	5	6
Outside Diameter of Glass.....inches	1½	1¼	1½	1¾	2	2¼	2½	3	3½
Capacity.....ounces	½	¾	1	1½	2½	4	5	10	18
Pipe Thread.....inch	½	¾	¾	¾	¾	¾	¾	¾	¾
Finished Brass.....each	75	80	1 00	1 25	1 50	1 90	2 40	3 10	4 00
Nickel Plated.....each	85	95	1 20	1 50	1 75	2 20	2 75	3 50	4 50
Extra Glasses.....each	06	08	10	10	12	15	25	35	65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup, as stamped on same.

LUNKENHEIMER'S

"Ajax" Index Glass Oil Cup.

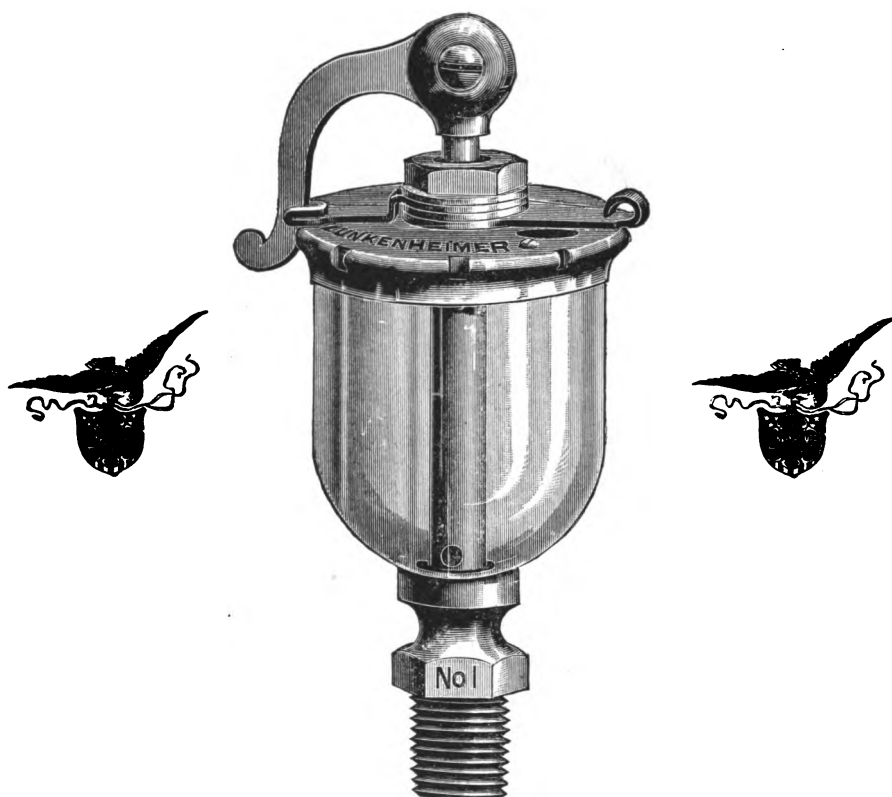


Fig. 520. Full Size, No. 1.

This Cup is constructed and operated same as the "Victor" on Page 88.

PRICE LIST.

Number.....	0	1	1½	2	3	4	5	6
Outside Diameter of Glass.....inches	1¼	1½	1¾	2	2¼	2½	3	3½
Capacity.....ounces	¾	1	1½	2½	4	5	10	18
Pipe Thread.....inch	½	¾	¾	¾	¾	¾	¾	¾
Finished Brass.....each	1 00	1 20	1 45	1 75	2 15	2 70	3 40	4 30
Nickel Plated.....each	1 15	1 40	1 70	2 00	2 45	3 05	3 80	4 80
Extra Glasses.....each:	08	10	10	12	15	25	35	65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup, as stamped on same.

LUNKENHEIMER'S
"Rival" Sight-Feed Glass Oil Cup.

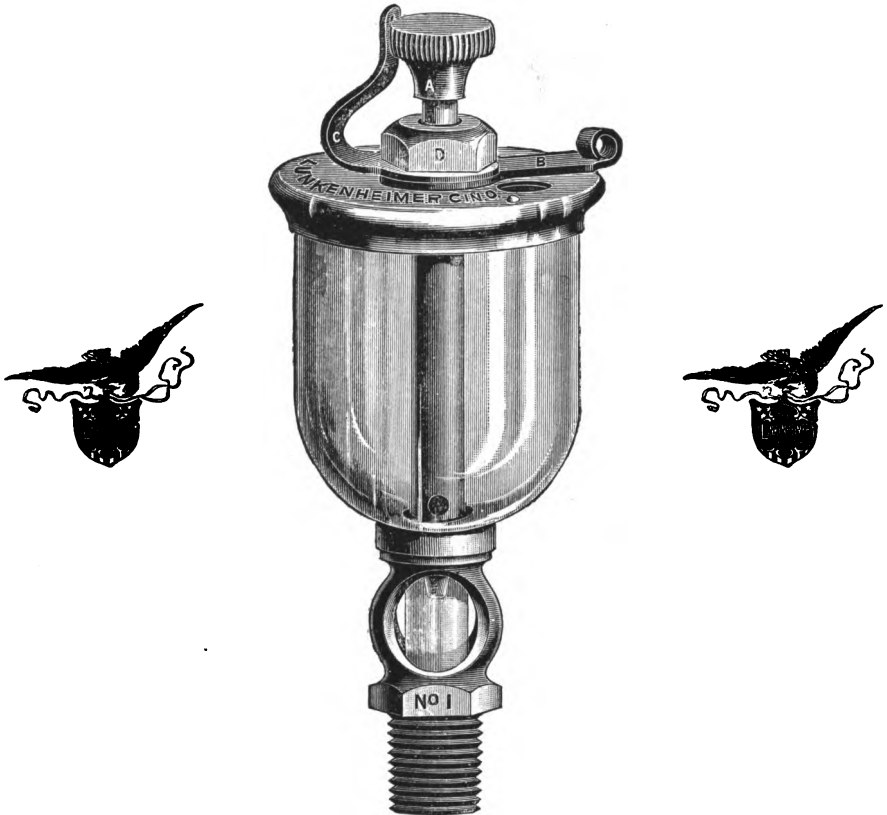


Fig. 521. Full Size, No. 1.

The "Rival" is a simple and efficient Sight-Feed Oil Cup, provided with the same filling and feed regulating arrangement as the "Yankee" on Page 91.

PRICE LIST.

Number.....	00	0	1	1½	2	3	4	5	6
Outside Diameter of Glass.....inches	1½	1¼	1½	1¾	2	2¼	2½	3	3½
Capacity.....ounces	½	¾	1	1½	2½	4	5	10	18
Pipe Thread.....inch	½	¾	¾	¾	¾	¾	¾	¾	¾
Finished Brass.....each	1 10	1 25	1 50	1 75	2 10	2 55	3 15	3 90	4 80
Nickel Plated.....each	1 20	1 40	1 70	2 00	2 35	2 85	3 50	4 30	5 30
Extra Glasses.....each	06	08	10	10	12	15	25	35	65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup, as stamped on same.

LUNKENHEIMER'S "Ruby" Index Sight-Feed Glass Oil Cup.



Fig. 522. Full Size, No. 1.

The "Ruby" Oil Cup is constructed like the "Crown" on Page 90.

PRICE LIST.

Number.....	0	1	1½	2	3	4	5	6
Outside Diameter of Glass.....inches	1¼	1½	1¾	2	2¼	2½	3	3½
Capacity.....ounces	⅝	1	1½	2½	4	5	10	18
Pipe Thread.....inch	½	¾	¾	¾	¾	¾	¾	¾
Finished Brass.....each	1 25	1 50	1 75	2 10	2 55	3 15	3 90	4 80
Nickel Plated.....each	1 40	1 70	2 00	2 35	2 85	3 50	4 30	5 30
Extra Glasses.....each	05	10	10	12	15	25	35	65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup as stamped on same.

LUNKENHEIMER'S
Automatic Rod Cups.
FOR ENGINE CRANK PINS.

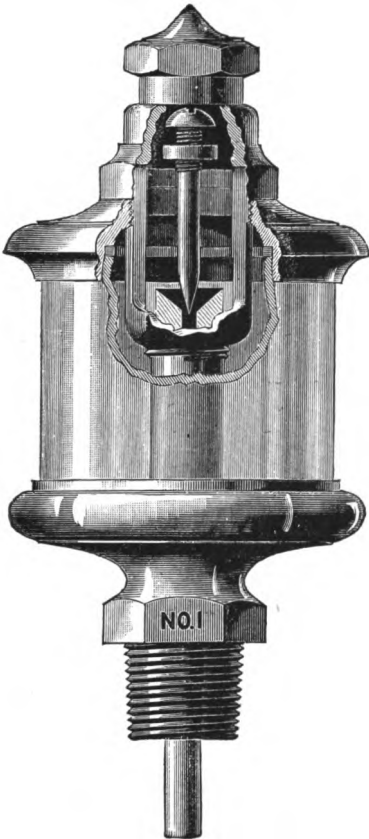


Fig. 523. Screw Feed.

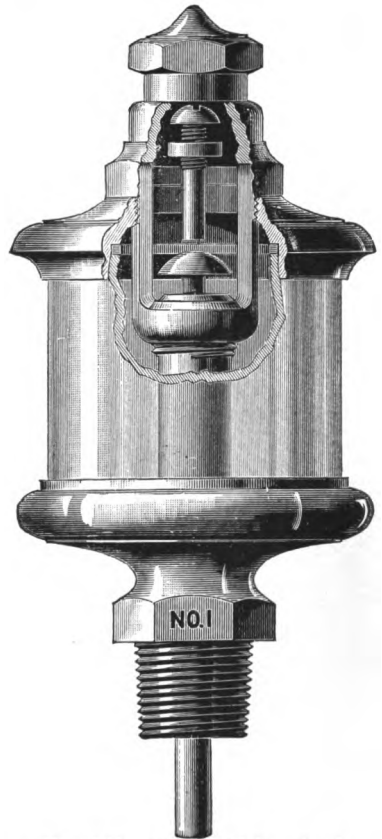


Fig. 524. Needle Valve-Feed.

THE "LUNKENHEIMER" AUTOMATIC SCREW FEED and NEEDLE VALVE ROD CUPS are unexcelled for use on engine or other crank bearings. They are simple, compact, strong and well made, with no complicated parts, thus are not liable to get out of order, nor will they throw and waste oil, as is the case with other makes. Thousands of them are in use to-day, and are giving excellent satisfaction. The Needle Valve Cups are not made smaller than No. 1. When ordering mention whether Screw-Feed or Needle Valve-Feed are wanted.

PRICE LIST.

Number.....	0	1	1½	2	3	4
Outside Diameter of Glass.....inches	1¼	1½	1¾	2	2½	2¾
Height of Glass.....inches	1½	1¾	1¾	1¾	2½	2¾
Capacity.....ounces	¾	1	1½	2½	4	5
Pipe Thread.....inch	¾	¾	¾	¾	¾	¾
Finished, Brass.....each	1 10	1 50	2 00	2 50	3 00	4 00
Nickel Plated.....each	1 25	1 70	2 25	2 75	3 30	4 35
Extra Glasses.....each	08	10	10	12	15	25

In ordering extra Glasses and Cork Washers for these cups always specify number as stamped on same.

LUNKENHEIMER'S
"Miami" Plain Glass Oil Cup.
WITH SCREW PLUG.

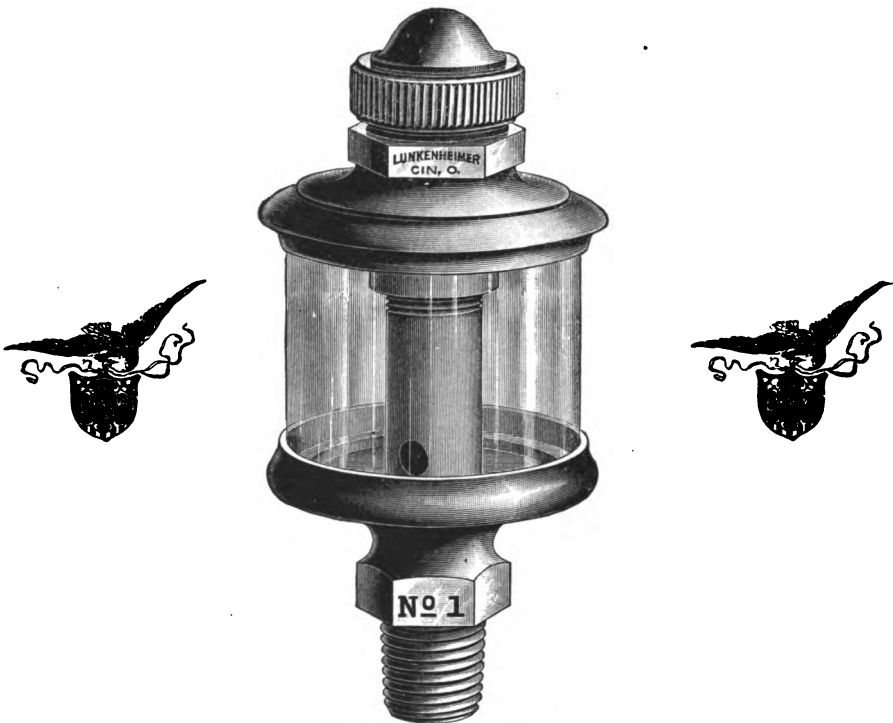


Fig. 525. Full Size, No. 1.

THIS simple and substantial air-tight oil cup will be found suitable for stationary and movable bearings. It will not leak when placed on movable bearings, has a simple feed regulating arrangement and an improved screw filler enabling convenient and quick refilling. The filling cap being made of a very thin and light material is easily screwed tight without the use of a wrench and will not jar off. When feed is once set, the cup operates automatically and regularly and stops feeding when the machinery is not in motion.

PRICE LIST.

Number..	000	00	0	1	1½	2	3	4	5	6
Outside Diameter of Glass.....inches	1	1½	1¾	1½	1¾	2	2¼	2½	3	3½
Height of Glass.....inches	¾	1	1½	1¾	1½	1¾	2½	2¾	3	4
Capacity .....ounces	¼	½	¾	1	1½	2½	4	5	10	18
Pipe Thread.....inch	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
Finished, Brass.....each	70	75	80	1 00	1 25	1 50	1 90	2 40	3 10	4 00
Nickel Plated .....each	80	85	95	1 20	1 50	1 75	2 20	2 75	3 50	4 50
Extra Glasses.....each	05	06	08	10	10	12	15	25	35	65

Cups of this style will be furnished with Loose Wire Feed, if desired.
In ordering extra Glasses and Cork Washers for these cups always specify number as stamped on same.

LUNKENHEIMER'S

Cylindrical and Urn-Shaped Glasses.

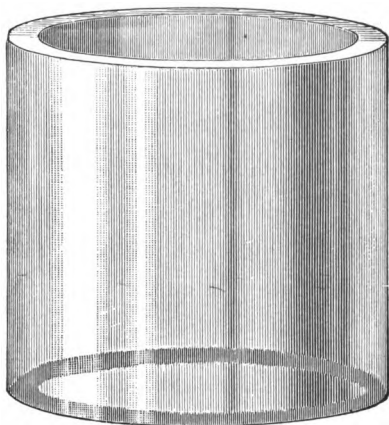


Fig. 526. Full Size, No. 2.

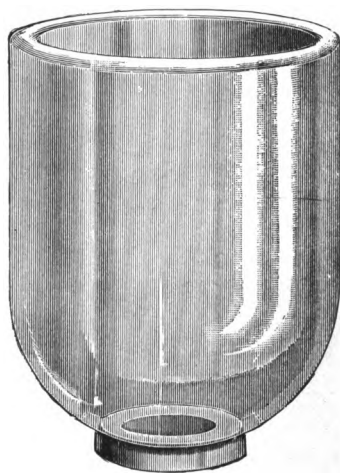


Fig. 527. Full Size, No. 1½.

These Glasses are clear, strong and uniform in size, and interchangeable with all styles of Glass Cups made by us.

PRICE LIST.

Number	000	00	0	1	1½	2	3	4	5	6
O.D. of Cyl. and Urn-shape Glasses. inches	1	1½	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Cylindrical Glasses. inches	¾	1	1½	1¾	1½	1¾	2½	2¾	3	4
Price .....each	05	06	08	10	10	12	15	25	35	65
Cork Washers .....per dozen	15	18	24	30	36	40	45	50	60	75

In ordering Glasses always specify whether Cylindrical or Urn-shaped are wanted.

LUNKENHEIMER'S Dynamo Oil Gauges.

WITH REVOLUBLE REFLECTING SHIELD.

(Patent Pending.)

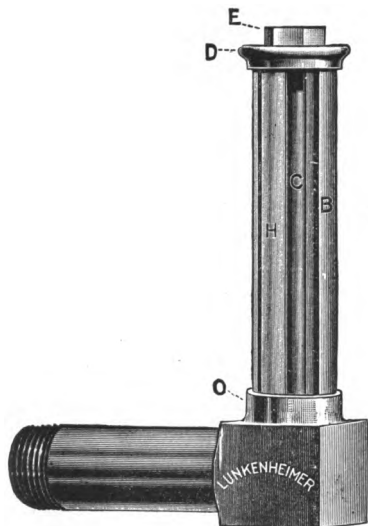


Fig. 528. Plain.

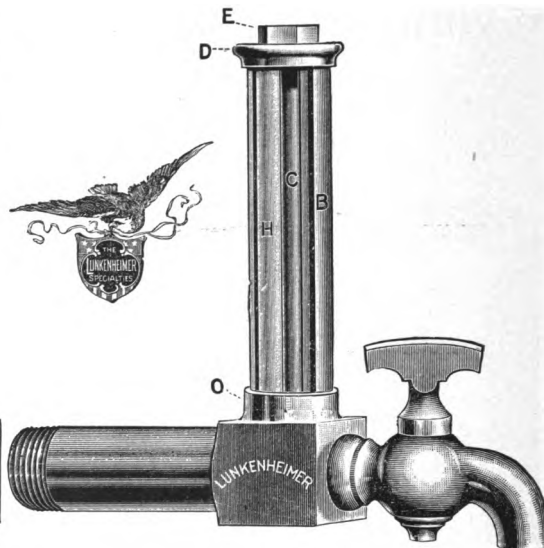


Fig. 529. With Drain Cock.

THE Oil Gauges heretofore used on Self-Oiling JOURNAL BOXES OF DYNAMOS possess several serious objections, which have been entirely overcome in the "Lunkenheimer" Improved Gauge, and on account of its advantages and low price, is rapidly superseding them. All users of Oil Gauges are aware that with those heretofore used it is impossible to clean the glass tube, which soon becomes so covered with dust and dirt, collecting in the slots of the shield, that the oil cannot be seen. Besides, the slots or windows of the gauge are not always in proper position, as regards the light, to enable one to see the oil, and the shield being fixed, cannot be turned to suit. Then owing to the construction of these Oil Gauges, they are unnecessarily clumsy and expensive. **The Lunkenheimer Oil Gauge will be found "Perfect" in all these particulars:** it is simple and practical in construction, can be easily taken apart, is handsome in appearance and inexpensive in price. The glass protecting shield is a "half tube," which permits being revolved around the glass tube, thus it can easily be kept clean, and the shield set in proper position, as regards the light, so that the oil is plainly visible. The inside of the shield is plated, thus it also acts as a reflector. The entire gauge is held together by a thin wire rod, which is screwed into the bottom fitting, passes through the center of glass tube, and has a nut fastened to it on the upper side of top cover. **To Clean the Glass Tube,** hold a piece of waste to the tube, and revolve it with the shield around the glass, until properly cleaned, then turn the shield to its former position.

PRICE LIST.

SIZE—Thread on Shank.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Brass, no Drain Cock.....each	40	50	65	1 00
Plated, no Drain Cock.....each	55	65	80	1 20
Brass, with Drain Cock each	80	90	1 05	1 40
Plated, with Drain Cock.....each	1 00	1 10	1 25	1 65

In ordering Oil Gauges state length of glass wanted, and whether wanted with or without Drain Cock. When not stated, Gauges will be sent with Drain Cock. An extra charge will be made for gauges of unusual length.

LUNKENHEIMER'S Plain Locomotive Crank Pin Cup.

WITH LOOSE WIRE FEED.

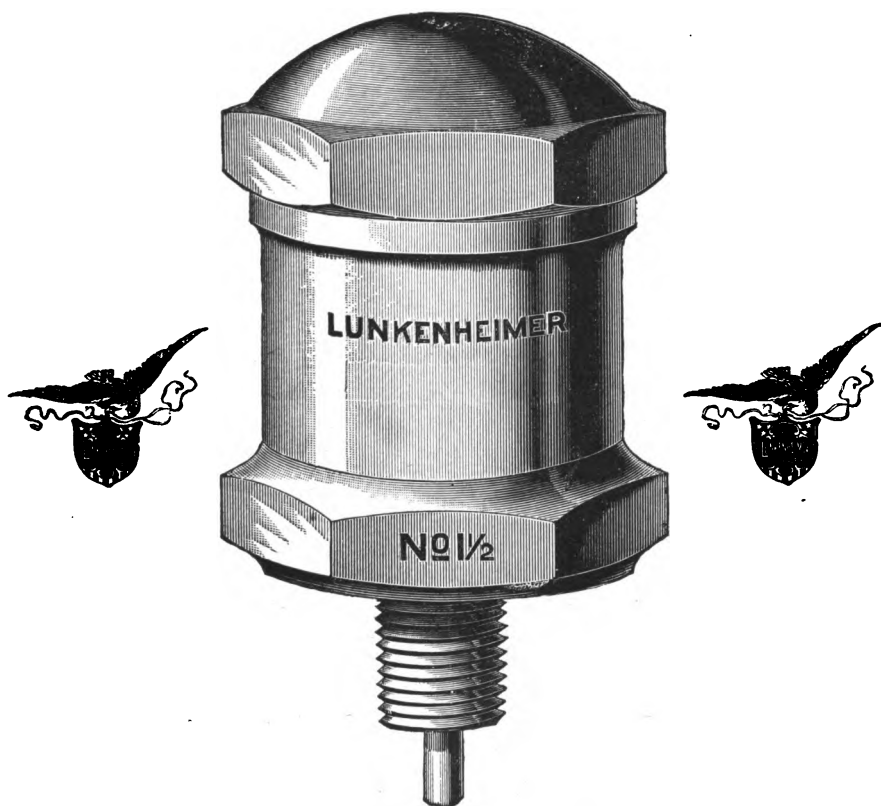


Fig. 530. Full Size, No. 1½.

PRICE LIST.

Number.....	1½	2
Outside Diameter .....inches	1¾	2
Capacity.....ounces	1½	2½
Finished Brass.....each	1 80	2 00

Unless thread is specified, shanks will be left blank.

LUNKENHEIMER'S Slide Top Locomotive Brass Guide Oil Cup.



Fig. 531. Full Size, No. 1½.

THE attention of Locomotive Builders and Master Mechanics is called to the improved filling arrangement on these oil cups, by which they can be quickly and easily filled, without the annoyance usually experienced with oil cups having the screw-plug filler. They are compactly constructed, and the slide is warranted not to leak; are provided with the pointed needle feed, and the flow of oil can be readily regulated from the outside.

PRICE LIST.

Number.....	1½	2	3
Outside Diameter .....inches	1¾	2	2¼
Capacity.....ounces	1½	2¼	4
Finished Brass.....each	2 50	3 00	4 00

Unless thread is specified, shanks will be left blank.

LUNKENHEIMER'S
Slide Top Locomotive Glass Guide Oil Cup
WITH BRASS SHIELD.

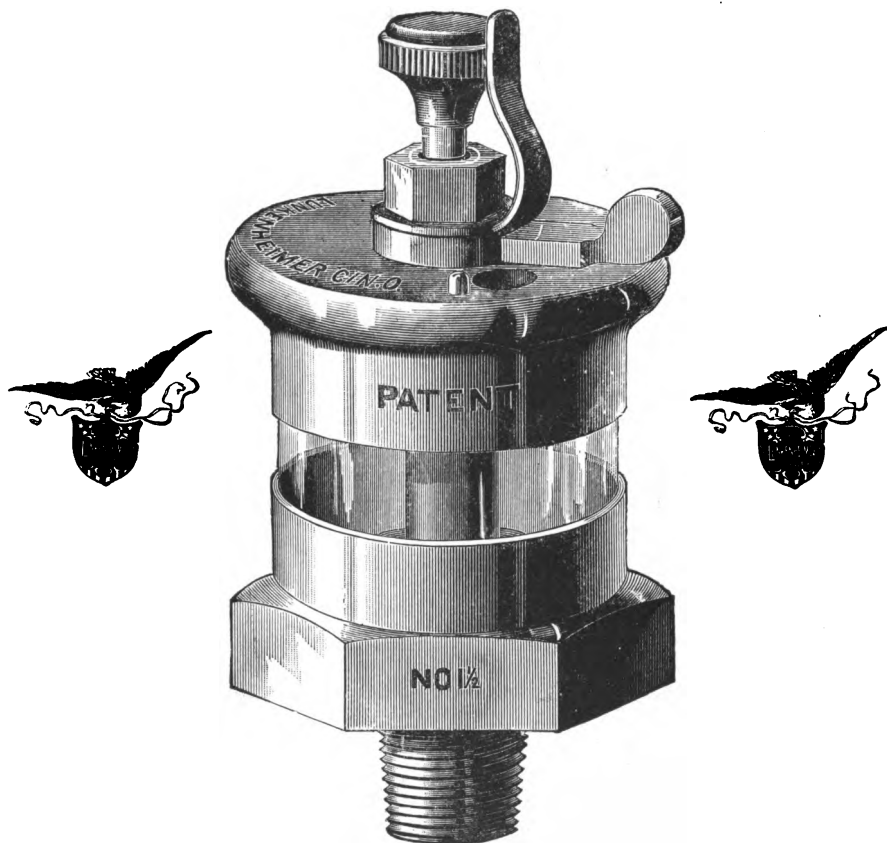


Fig. 532. Full size, No. 1 1/2.

This Cup has the same filling and feed regulating mechanism as the Brass Locomotive Guide Oil Cup described on opposite page.

PRICE LIST.

Number.....	1 1/2	2	3
Outside Diameter of Glass.....inches	1 3/4	2	2 1/4
Height of Glass.....inches	1 1/2	1 3/8	2 3/8
Capacity.....ounces	1 1/2	2 1/2	4
Finished Brass.....each	2 50	3 00	4 00
Extra Glasses.....each	10	12	15

Unless thread is specified, shanks will be left blank.

LUNKENHEIMER'S

“Cody” Patent Shaft Oilers.

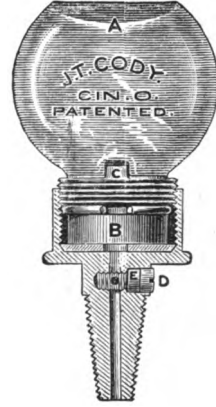


Fig. 533. Shaft Oiler. Fig. 534. Shaft Oiler, with Loose Wire and Wood Plug. Sectional of Fig. 533.

DIRECTIONS FOR USING CODY'S SHAFT OILERS.

Fill the oiler (full) with oil, screw on the socket air-tight, and then screw the stem tightly into the oil-hole in bearing. When the cup needs refilling unscrew the stem out of the hole, take the oiler apart, and proceed as before. See that the hole through stem is always clear of any obstruction before putting the oiler in its place.

SEE THAT THE GLASS GLOBE IS ALWAYS TIGHT IN ITS SOCKET.

TO REGULATE.

The oilers are shipped set for a MODERATE feed. The oil-hole in the stem is drilled parallel with the slot in the set-screw. By turning the regulating screw a QUARTER-TURN BACKWARD the supply of oil is entirely cut off. Between these two positions of the screw any desired amount of feed may be had.

PRICE LIST.

Shanks are threaded $\frac{3}{8}$ inch on point, 16 threads to the inch.

Number.....	1	2	3
Capacity.....ounces	1	1 $\frac{3}{8}$	2 $\frac{3}{4}$
Diameter.....inches	1 $\frac{1}{4}$	2	2 $\frac{1}{2}$
Height.....inches	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$
Finished, Brass.....each	50	55	60
Extra Glasses.....each	08	08	08
Extra Cork Washers.....per dozen	15	15	15

LUNKENHEIMER'S "Magic" Grease Tube for Loose Pulleys.

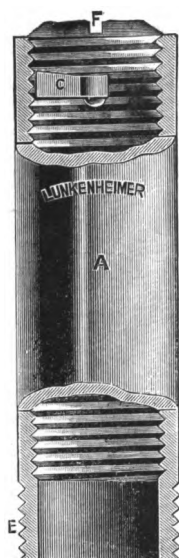


Fig. 535.

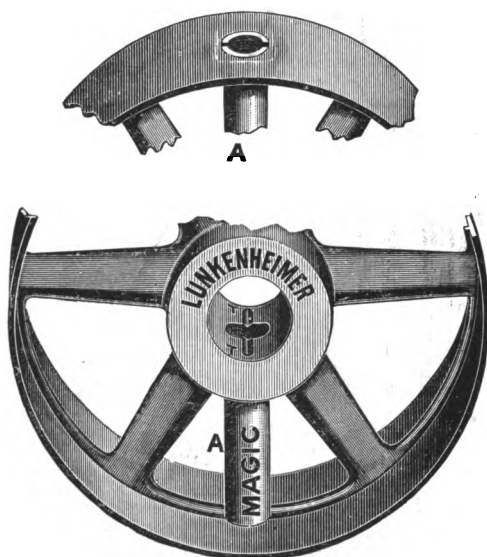


Fig. 536.

THE LUNKENHEIMER PATENT "MAGIC" LOOSE PULLEY GREASE TUBE, in connection with Lunkenheimer's "Magic" Grease Candle, is a simple, practical, convenient, clean and inexpensive method of effectually lubricating loose pulleys, and especially adapted for pulleys too small in diameter to permit the attachment of cups on the hub.

Referring to the illustrations, a $\frac{3}{8}$ inch hole is drilled through the rim and a $\frac{3}{4}$ inch hole through the hub of the pulley, and the latter tapped $\frac{1}{2}$ inch pipe thread. The Tube is then screwed into place, flush with or beneath the face of pulley. The follower F is unscrewed and taken out of Tube by use of a screw driver, the Grease Candle inserted, and the follower screwed back against the grease and given a few turns to force a sufficient amount of lubricant down on the shaft. This will last for days, when the follower can again be given a few turns. When the follower F finally reaches the shaft, reverse or unscrew it until it comes out of the Tube, re-charge with Grease Candle and proceed as before. The follower is provided with a ratchet wing C, which imbeds itself in the candle, and turning only one way, prevents it from unscrewing and jarring out. On large pulleys it is not necessary to have the Tube extend through the rim of pulley. In such cases the Tube can stand at an angle, so it can be conveniently operated from the side of pulley.

The "Magic" Grease Candles are quite inexpensive, considering the amount of work they will do. They are clean and handy to apply. Fit up one troublesome pulley, and let the "Magic" speak for itself.

Full directions for applying and operating are sent with the Tube.

When ordering always state Diameter of Pulleys and Shaft.

PRICE LIST.

All Tubes are $\frac{3}{8}$ inch, scant. Outside Diameter, and threaded $\frac{1}{2}$ inch pipe thread at one end.

SIZE		Up to 3 inches long.	3 to 6 inches.
"Magic" Tubes .....each		1 00	1 50
"Magic" Candles .....per hundred	4 00		

LUNKENHEIMER'S

Brass Loose Pulley Oiler.



Fig. 537. Full Size, No. 3.

THIS OILER must be attached to hub of pulley, is easily filled and regulated, will not throw or waste oil, and a trial will convince users that it is a simple and satisfactory oiler for loose pulleys. It is guaranteed to give satisfaction, one filling lasting from two to four weeks, and feeding only when in motion.

PRICE LIST.

Number.....	0	1	2	3	4
Outside Diameter.....inches	1	1¼	1½	1¾	2
Capacity.....ounces	¼	½	¾	1¼	1¾
Rough, Brass.....each	25	30	40	50	65

Shanks on Nos. 0, 1 and 2 are threaded $\frac{3}{8}$ inch on point, 16 threads to the inch.

Shanks on Nos. 3 and 4 are threaded $\frac{1}{4}$ inch Pipe Thread.

LUNKENHEIMER'S

Brass Hinge Lid Oil Cups.

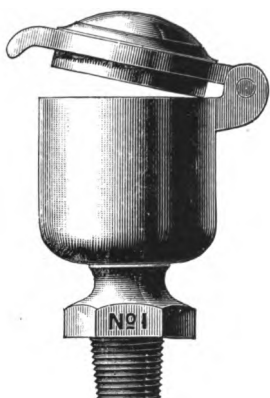


Fig. 538. Small Base.
Full Size, No. 1.

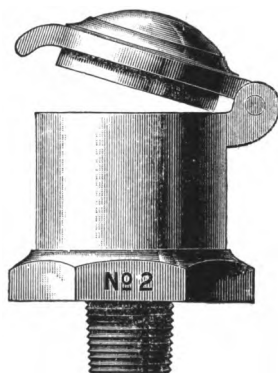


Fig. 539. Large Base.
Full Size, No. 2.

PRICE LIST.

Number.....	1	2	3	4	5	6	7
Outside Diameter.....inches	$\frac{3}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$1\frac{7}{8}$	2
Pipe Thread.....inch	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$
Finished Brass.....each	70	85	1 20	1 60	2 10	2 50	2 70
Finished Brass, with Elbow Shank.....each	85	1 15	1 60	2 10	2 65	3 05	3 25

LUNKENHEIMER'S

Brass Oil Cups.



Fig. 540. Plain.
Full Size, No. 1.

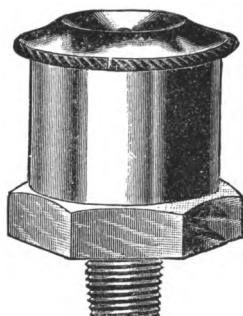


Fig. 541. Locomotive Pattern.
Full Size, No. 2.

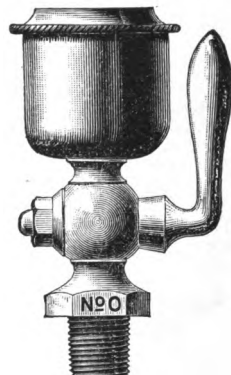


Fig. 542. With L. H. Cock.
Full Size, No. 0.

PRICE LIST.

Number.....	00	0	1	2	3	4	5	6	7	8	9
Outside Diameter.....inches	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$1\frac{7}{8}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$
Pipe Thread.....inch	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Plain Oil Cups, Finished Brass...each	25	30	35	40	60	90	1 25	1 60	1 75	2 25	2 75
Locomotive Pattern Oil Cups, Finished Brass.....each	30	35	40	50	75	1 00	1 50	1 80	2 00	2 50	3 00
Add to List for Brass Tubes...each	10	10	10	10	15	15	15	15	15	20	20
Finished Brass Oil Cups, with T. H. Cock.....each	.....	80	90	1 00	1 50	2 00	2 50	2 75	3 00	3 75	4 50
Finished Brass Oil Cups, with L. H. Cock.....each	.....	90	1 00	1 10	1 60	2 20	2 75	3 00	3 25	4 00	5 00

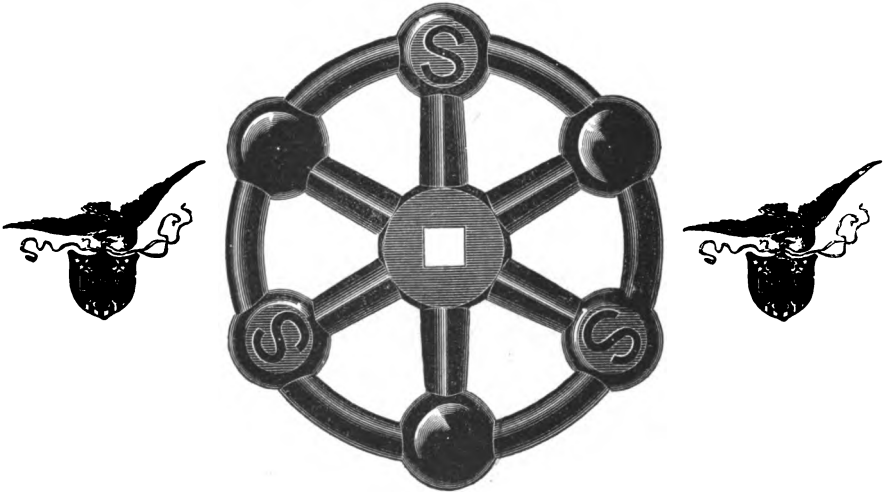
“LUNKENHEIMER”

WHENEVER and WHEREVER you see above Trade-Mark upon any Brass or Iron article, you may be absolutely certain that it is the VERY BEST of its kind that money and ingenuity can possibly produce. It signifies **superior** quality, durability and efficiency.


The Lunkenheimer Valve Wheel.

USED ON ALL OUR VALVES BELOW 3 INCH SIZE.

(Imitations are without the letters **S** on ball.)



To avoid mistakes in ordering goods please give Figure Number, Size, Thread, Finish, etc.

 Goods furnished with English Standard Threads or Flanges without additional charge.

DIAMETERS OF ENGLISH STANDARD FLANGES.

Size.....	½"	¾"	1"	1¼"	1½"		2"	
Diameter	75m / m	85m / m	100m / m	115m / m	130m / m		150m / m	
Equivalent in Inches.....	2 1/8	3 5/16	3 1/8	4 1/2	5 1/8		5 7/8	
Size.....	2½"	3"	3½"	4"	4½"	5"	6"	7"
Diameter..	170m / m	190m / m	215m / m	230m / m	245m / m	260m / m	290m / m	320m / m
Equivalent in Inches.....	6 1/8	7 1/2	8 7/16	9 1/8	9 5/8	10 3/16	11 3/4	12 9/16
Size.....	8"	9"	10"	12"				
Diameter	350m / m	370m / m	400m / m	450m / m				
Equivalent in Inches.....	13 3/4	14 9/16	15 3/4	17 3/4				



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